The Contribution of Pharmacy to The Management of HIV Patients at Maitama District Hospital, Abuja, Nigeria

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Declaration

I hereby declare that this thesis is my own work and effort and that it has not been submitted anywhere for any award. Where other sources of information have been used, they have been acknowledged.

Signature _____

Date _____

Abstract

Human immunodeficiency virus (HIV) is a worldwide problem, with more than 34 million people infected with HIV/AIDS in 2011. At the end of 2011, in Nigeria, an estimated 3.7% of the adult population were living with HIV/AIDS. HIV services in Nigeria are secondary-care led, involving multidisciplinary teams and access to free antiretroviral. However, evaluations of service provision from both patient and healthcare professional perspectives, especially, pharmacists in Nigeria have never been conducted, and are the aims of this research.

This study involved grounded theory methodology, using In-depth semi-structured interviews with adults infected with HIV, pharmacists, and administrators involved in the management and care of those patients at Maitama District Hospital in Abuja. HIV pharmacists working for the NHS in the UK were interviewed for comparative purposes. Thirty-five patients were interviewed. Five concepts were identified that influenced how they accessed hospital services after diagnosis. These include faith in God and antiretroviral, social issues with emphasis on HIV stigma and discrimination, patient journeys at the hospital with delays and repeat visits, obstacles such as ARV unavailability and their expectations. Also, five concepts were identified from the pharmacists' interviews which include clinical service, impressions of service provided, social issues the patients encountered, the obstacles faced with clinical service provided and expectations for improvement. Ten patients were shadowed on their clinic days to observe the patient journey articulated. Furthermore, the administrators interviewed re-affirmed the opinions of the patients and pharmacists about many patients attending HIV clinic, few staff attending to patients, medicines unavailability, especially ARV drugs, and lack of working space for staff. Delays, few pharmacists/many patients and shortage of ART as barriers to service provision

emerged as dominant themes across the three groups of interviewees in Nigeria. Also, it has been found that there is a wide gap between HIV patients' hospital management in the UK and Nigeria as regards availability of antiretroviral, staff strength, number of patients in attendance on clinic days and weekly clinic days.

Pharmacy was found to have a substantial role in the management of HIV/AID patients but it appears from this study that service improvements, both human and material resources are needed. Twenty three recommendations, which are further synthesised into six potential areas, are made, which, if implemented, would dramatically improve the service provision for HIV/AIDS patients at Maitama District Hospital.

Dedication

For my children, Rose Onyanji, Onyejem Comfort, and Adanu Tobit.

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To those I have not been able to mention; I do appreciate you. May the Almighty God bless us all and grant us wisdom and knowledge to withstand our future challenges.

To God Almighty be the glory!

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Abbreviations

Initials	Interpretations
AEs	Adverse Events
AIDS	Acquired Immune Deficiency Syndrome
APU	ARV Pharmacy Unit
ART	Antiretroviral Therapy
ARV	Antiretroviral
BHH	Birmingham Heartlands Hospital
BHIVA	British HIV Association
BSEC	Behavioural Sciences Research Ethics Committee
cART	Combination Antiretroviral Therapy
CD4	Cluster of Differentiation 4
CDC	Centers for Disease Control
FCTA	Federal Capital Territory Administration
FCT	Federal Capital Territory
FLs	Faith Leaders
FMoH	Federal Ministry of Health
GDP	Gross Domestic Product
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
GP	General Practitioner
GT	Grounded Theory
HAART	Highly Active Antiretroviral Therapy
HCPs	Health Care Professionals
HDI	Human Development Index
HIV	Human Immunodeficiency Virus
IDU	Injecting Drug User
LGAs	Local Government Areas
LGHD	Local Government Health Departments
LTFU	Left to Follow Up

MDH	Maitama District Hospital
M & E	Monitoring and Evaluation
MFCTA	Ministry of Federal Capital Territory Administration
MR	Medical Record
MRU	Medical Record Unit
MSM	Men who have Sex with Men
NATG	National Antiretroviral Therapy Guidelines
NACA	National Agency for the Control of AIDS
NCH	New Cross Hospital
NGO	Non Governmental Organisation
NHIS	National Health Insurance Scheme
NHS	National Health Service
OIs	Opportunistic Infections
°C	Degrees Centigrade
PAM	Pharmacy Adherence Measures
PCT	Primary Care Trust
PEPFAR	President's Emergency Plan for AIDS Relief
PHC	Primary Healthcare
PLHA	People Living with HIV/AIDS
RCT	Randomised Controlled Trials
SMS	Short Message Service
SOH	Selly Oak Hospital
SMoH	State Ministry of Health
SSA	Sub-Saharan Africa
STIs	Sexually Transmitted infections
TasP	Treatment as Prevention
THs	Traditional Healers
UK	United Kingdom
UN	United Nations
UNAIDs	United Nations Programme on HIV/AIDS

UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNOWA	United Nations Office for West Africa
UoW	University of Wolverhampton
US	United States
USAID	United States Agency for International Development
VIP	Very Important Personality
WMH	Walsall Manor Hospital
WHO	World Health Organisation

1. CHAPTER ONE - INTRODUCTION

1.0 Introduction

This chapter will briefly discuss the discovery, proliferation, pathophysiology and treatment of HIV/AIDS, highlighting its prevalence and effect on the African continent, particularly Nigeria. It will further introduce Nigeria, the country of study in this thesis, to enable the reader to understand some of the cultural, political and economic influences that will have a bearing on the findings of this work.

1.1 Overview of HIV Epidemic

The human immunodeficiency virus (HIV) which causes acquired immune deficiency syndrome (AIDS) is one of the most destructive epidemics the world has ever witnessed [1,2] making it one of the most important public health disasters in the world [3,4], Sub-Saharan Africa (SSA), is particularly affected and where the impact of HIV has been most severe [5,6].

1.1.1 HIV/AIDS

HIV, a retrovirus was identified as the causative agent for the development of AIDS in 1983 [2,7], and was first described in a report from the United States (US) Centers for Disease Control (CDC) in 1981 [7,8]. Awareness of HIV started with a report, published in 1981 in the *Morbidity and Mortality Weekly Report,* of a rare type of pneumonia caused by *Pneumocystis jiroveci* (*Pneumocystis carinii)*, as well as other unusual infections in five young homosexual men in Los Angeles, California. This was the earliest documented occurrence of AIDS as reported.

1.1.1.1 Origin of HIV

HIV is assumed to have entered the human population through cross-species transmission from wild chimpanzees and sooty mangabeys (Old World monkeys) in Africa [9,10]. In HIV-infected patients, T-lymphocytes replicate rapidly and either destroy or impair cells in the immune system [11,12]. Hence, HIV infection leads to a severe reduction in the number of T-helper cells available to help fight disease and if not treated, becomes chronic and progressive leading to development of AIDS [13,14].

1.1.1.2 Transmission and Risk Factors

HIV can be passed from person-to-person by way of sexual fluids, blood and breast milk [15,16]; the main channel for the spread of HIV infection being through sexual exposure [17,18]. Although the first identified cases of AIDS were in homosexuals in the US and Europe [19,20], heterosexual contact is the main route of transmission in areas of highest HIV prevalence [17,20]. Most adults living with HIV are women [21,22]; possibly linked to anatomical factors [23] and in Africa, to social and cultural issues [24,25] such as polygamy [26]. However, a number of studies have identified that certain groups are particularly affected including sex workers, long distant truck drivers, TB patients, patients with other sexually-transmitted diseases (STDs), injecting drug users and children born to HIV-infected mothers [22,27,28]. Another source of transmission of HIV is the cyclic use of non-sterile instruments in hospital settings and by traditional healers for circumcisions, tribal or body marks (tattoos) and talisman's incisions [29,30].

1.1.1.3 Manifestation of HIV

1.1.1.3.1 Opportunistic Infections

After living with HIV infection for a prolonged period of time without medical treatment, most patients become vulnerable to other infections, termed HIV-related opportunistic

infections (OIs) because of the opportunity offered by the patient's weakened immune system [31,32]. Some of the most common HIV-related OIs and diseases are bacterial infections, such as tuberculosis and septicaemia, fungal infections, such as *Pneumocystis jirovecii* pneumonia and candidiasis, malignancies such as Kaposi's sarcoma and Lymphoma and protozoal infections, such as toxoplasmosis and leishmaniasis [32].

1.1.1.4 Classification of HIV Infection

Generally, HIV infection is categorised into four stages namely:

- Primary infection;
- Clinically asymptomatic infection;
- Symptomatic HIV infection; *and*,
- Progression from HIV to AIDS.

In addition, the World Health Organisation (WHO) has developed a clinical staging structure for HIV infection [33]. This 4-stage structure relies more on clinical signs and symptoms rather than laboratory evaluation. The developed clinical staging structure has also been used in resource-constrained areas where laboratory testing is not available [33].

1.1.1.4.1 Primary Infection Stage

The time period from initial HIV infection to the development of an antibody response detectable by standard tests is known as primary HIV infection [34]. The acute viral syndrome of primary HIV infection, also known as sero-conversion illness, appears within days to weeks following exposure to HIV [35]. It is characterised by a large amount of HIV in the peripheral blood; hence, the immune system responds to the virus by producing HIV antibodies and cytotoxic lymphocytes. The most common symptom

presented is fever but other symptoms included fatigue, lymphadenopathy, weight loss, abdominal pain, oral candidiasis, anorexia and rash [36]. A study by Adedigba and co-workers has shown that oral candidiasis is a common oral manifestation of HIV in Nigeria [37]. However, Blattner and co-workers have reported that tuberculosis is the most common throughout West Africa [25].

1.1.1.4.2 Clinically Asymptomatic Stage

During this phase, the majority of HIV positive patients are clinically asymptomatic (although, there may be swollen glands) in spite of the widespread immunological changes due to rapid viral replication [38]. Research has shown that HIV is not dormant during this stage, but is very active in the lymph nodes [39]. The level of HIV in the peripheral blood is very low, however, people remain infectious and HIV antibodies are detectable in the blood. Antibody tests will show a positive result and this stage can last for more than ten weeks [36]. This is WHO stage I.

1.1.1.4.3 Symptomatic Infection Stage

HIV symptoms develop and worsen as the immune system deteriorates due to the emergence of OIs [14]. This stage of HIV infection is often characterised by multi-system disease and infections can occur in almost all body systems. The lymph nodes and many other tissues become damaged due to years of viral activity [33]. During this phase, HIV mutates and becomes more pathogenic, leading to more T-helper cell destruction; cells that cannot be replaced. Although treatment of specific infection or cancer is often carried out at this stage, the underlying cause of patient deterioration is the action of HIV on the immune system. Reduction of the viral load is the best therapy at this stage [40]. This phase is WHO stage II or III depending on OIs seen.

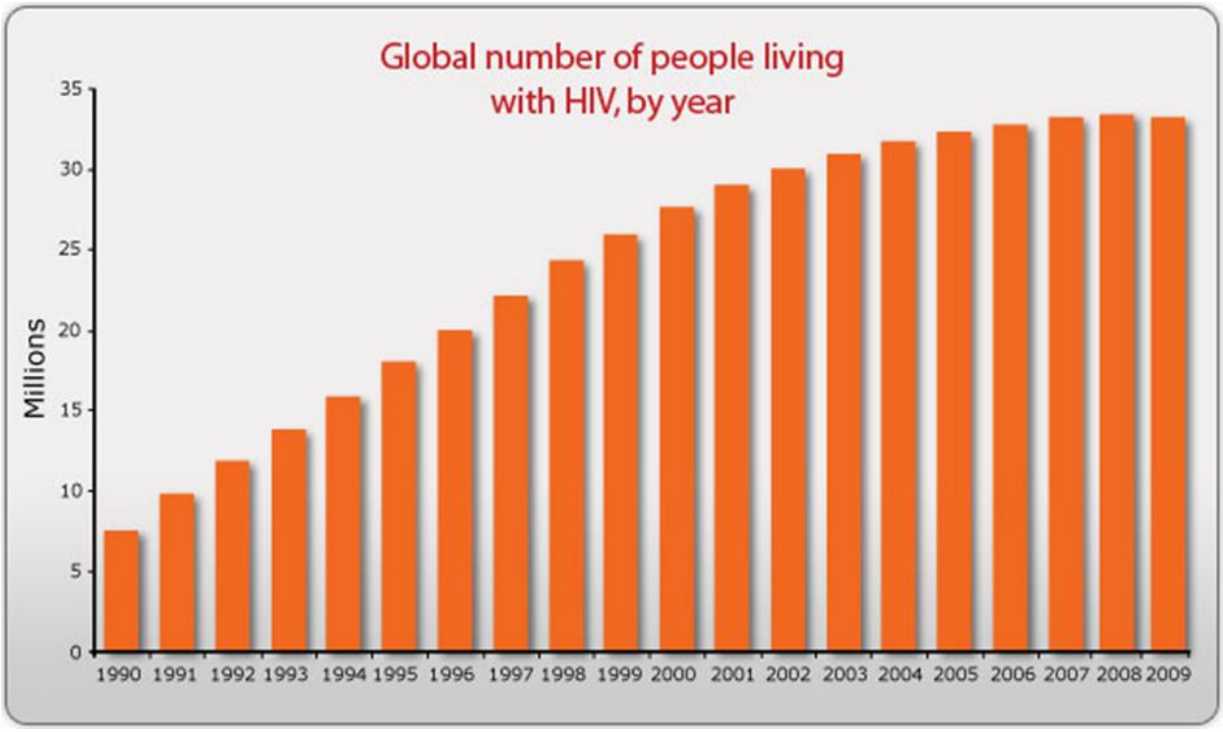
1.1.1.4.4 Progression from HIV to AIDS

A patient is diagnosed with AIDS when his or her immune system is too weak to fight off further infections [14]. A diagnosis of AIDS is eventually made when an individual manifests one or more of a number of serious OIs or cancers such as *Pneumocystis jirovecii* pneumonia, Kaposi sarcoma, cytomegalovirus infection, extra pulmonary cryptococcosis including meningitis. It can take 10-15 years for an HIV infected person to develop AIDS [33]. This phase is WHO stage IV.

1.2 Global Prevalence of HIV/AIDS

The number of people living with HIV increased from around 8 million in 1990 to around 34 million by the end of 2011 [6]. According to the WHO, over 60 million people have been infected with HIV [41] and approximately, 30 million people have died of AIDS since the first case was reported in 1981 [4]. In 2011, an estimated 2.5 million people were newly infected and there were 1.7 million AIDS-related deaths [6]. Over the last 30 years, there has been a huge global effort from governments and the scientific community in improving patient education and developing new medicines [4,42]. This has seen the number of people diagnosed with HIV/AIDs slow as shown below (Figure 1.1) [43].

Figure 1.1: HIV/AIDS Global Trends



Source: AVERT.org, 2013

1.2.1 Effect of HIV/AIDS in Sub-Saharan Africa

Sub-Saharan Africa (SSA) is most affected [4,44]. Currently more than 23 million people of the estimated 34 million people infected with HIV/AIDs live in this region, equating to an adult prevalence rate of 4.9% (Table 1.1) [6]. For example, in 2011, 1.8 million people acquired the virus and an estimated 1.2 million died of HIV-related illnesses; approximately, 70% of global deaths [6].

At the end of 2010, there were countries in SSA where more than one tenth of the adult population aged 15-49 was infected with HIV [45]. Although the rate of new HIV infections has decreased, the total number of people living with HIV continues to rise [46].

Table 1.1: Global HIV and AIDS Statistics, 2011

Regions	People living with HIV	Percentage of adults (15 – 49 years) with HIV/AIDS prevalence	People newly infected with HIV	Deaths due to AIDS
Sub-Saharan Africa	23.5 million	4.9%	1.8 million	1.2 million
South and South-East Asia	4.0 million	0.3%	280 000	250 000
Eastern Europe and Central Asia	1.4 million	1.0%	140 000	92 000
Latin America	1.4 million	0.4%	83 000	54 000
North America	1.4 million	0.6%	51 000	21 000
Western and Central Europe	900 000	0.2%	30 000	7000
East Asia	830 000	0.1%	89 000	59 000
Middle East and North Africa	300 000	0.2%	37 000	23 000
Caribbean	230 000	1.0%	12 000	10 000
Oceania	53 000	0.3%	2 900	1300
TOTAL	**34.0 million**	**0.8%**	**2.5 million**	**1.7 million**

Source: UNAIDS, 2012

1.2.2 HIV Therapies

Medicine treatments for HIV target the viral enzymes (integrase, protease and reverse transcriptase) necessary for HIV replication and cell entry stages are termed antiretroviral therapy (ART) [4]. The aim of ART is to reduce the viral load in the body; this in turn reduces OIs and frequency of illness and boost up the immune system [16,47]. Overtime the HIV virus has developed resistance to these agents resulting in the need for multiple medicine combinations to achieve good clinical outcomes [48]. Taking two or more ART at a time is called combination antiretroviral therapy (cART) and taking a combination of three or more is known as highly active antiretroviral therapy (HAART) [16].

Advances in ART and treatment combinations have shifted HIV from being a terminal condition to one that can now be managed as a chronic problem [48,49]. Thus, people living with HIV/AIDS (PLHA) are now living longer [48] although it has been reported that there are two new HIV cases diagnosed for every person placed on ART [46]. For ART to be effective, high levels of patient adherence are needed since poor adherence is also associated with the development of drug resistance [48,50].

1.2.2.1 Global Antiretroviral Adherence Interventions

Poor adherence to ART has been reported as causing virologic failure, (when ART fails to reduce a patient viral load to less than 200 copies/mL) [51,52] drug resistance, frequent morbidity, increased health costs and ultimately, mortality [53]. Sherr *et al* [51] examined the United Kingdom (UK) patient self reported ART non-adherence. Survey data were matched with routine treatment and virology data. The authors found that non-adherence reduced with age, which was reported more by people born outside the UK or black patients; poor adherence in black patients has also been reported elsewhere [54-56]. Other studies have also identified, amongst others, disclosure

[57,58], stigma [58], forgetfulness in ART taking [58] and cultural norms [59,60] as obstacles to ART adherence.

1.2.2.1.1 Other Adherence Intervention Methods

Telephone adherence counselling and electronic drug monitoring have been found to be effective in improving ART adherence [61-63]. Pellowski and Kalichman [64] reviewed the literature and found that most studies focused on medication adherence, used different technologies to deliver the intervention including short message service (SMS) or text messaging, cell phones and computers. da Costa *et al* [65] assessed whether a warning system based on mobile SMS messages increased the adherence of HIV-infected Brazilian women to antiretroviral (ARV) drug-based treatment regimens and their impressions and satisfaction with respect to incoming messages. The authors found that self-reported adherence indicated that 11 out of 13 participants remained compliant in the control group (adherence exceeding 95%), whereas all eight participants in the intervention group remained compliant. In contrast, the counting pills method indicated that the number of compliant participants was five for the control group and four for the intervention group. Microelectronic monitoring indicated that six participants in the control group were adherent during the entire four-month period compared to six participants in the intervention group. Those participants who received the SMS for less than four months, (eight participants in the intervention group and three patients) nine believed that the SMS messages aided them in treatment adherence, and 10 responded that they would like to continue receiving SMS messages [65]. Finocchario-Kessler *et al* [66] developed, piloted and evaluated pictorial images to communicate the importance of consistent dose timing and the concept of drug resistance to HIV patients. Adherence knowledge did not differ at baseline, however, at 48 weeks, intervention participants' demonstrated significantly increased knowledge

compared to controls. Also, the counsellors reported that the tools were well-received, and most participants felt the counselling helped them adhere to their medications. Allen *et al* [67] identified counselling focused attention to alcohol users and drugs with reduced side effects may improve ART adherence, and prevent the development of drug resistance. Also, Allen *et al* [68] acknowledged that to slow the Caribbean HIV epidemic, there was need to support programmes for the socioeconomic empowerment of PLHA. Wasti *et al* [69] reported that supportive environment, accessible treatment, clear instructions about regimens, and regimens tailored to individual patients' lifestyles were factors identified which influenced adherence amongst patients on ART and care providers in Nepal.

1.2.2.1.2 Systematic Reviews on Antiretroviral Adherence

Some systematic reviews of the literature on ART adherence have been carried by researchers, for example, Al-Dakkak *et al* [70] systematically, reviewed the literature involving adult HIV-infected patients aged 16 years and above. The authors reported an odds ratio for factors affecting adherence to ART to assess the impact of specific treatment related adverse events (AEs). They found that adherence to ART was lower in patients with non-specific AEs than in patients who did not experience AEs. Also, patients with specific AEs such as fatigue, confusion, taste disturbances and nausea were less likely to adhere to ART compared to patients without the AEs. While Nachega *et al* [71] systematically, reviewed the literature to estimate ART adherence rates during pregnancy and postpartum. The authors found 14 studies were from the US, six from Kenya, five from South Africa and Zambia each respectively. They found that only 73.5% of pregnant women achieved optimal ART adherence and thus, reaching adequate ART adherence levels was a challenge in pregnancy, especially during the postpartum period.

Barnighausen *et al* [72] reviewed the literature on experimental evidence as regards interventions to reduce HIV prevalence, increase treatment as prevention (TasP) which requires high rates of HIV testing, and ART uptake, retention, and adherence, which was not, achieved in general populations in SSA. They found two randomised controlled trials (RCT) on HIV testing investigated an intervention in general populations and the other examined interventions in selected groups such as employees, or individuals attending public-sector facilities for services. One RCT demonstrated that nurse-managed ART led to the same retention rates as physician-managed ART, but failed to show how to increase retention to the rates required for successful Tasp. Although the evidence on ART adherence was strongest, several RCTs demonstrated the effectiveness of cognitive and behavioural interventions. Thus, contradictory results in different settings suggest that the exact intervention content is crucial for success. Similarly, Hill and Kavookjian [73] reviewed the literature to identify studies analysing the effect of a motivational interviewing intervention on HAART adherence, to examine the relationship and identify gaps in the literature. Three of the five studies reviewed, showed a significant increase in adherence rates, two studies reported a significant decrease in viral load, and one study showed an increase in CD4 cell count as a result of the intervention. Also, Obiako and Muktar [74] reviewed the literature to examine the problems and challenges that affected the treatment of HIV infection in resource poor countries such as Nigeria. They found that previous studies showed that the advent of HAART has reduced morbidity and mortality among PLHA. However, in poor resource countries, HAART has been associated with many challenges such as; poor infrastructural base for the control programmes, irregular or non availability of drugs, poor drug adherence, co-morbidities and OIs, drug toxicities, drug-food and drug-drug interactions, laboratory monitoring of viral load, CD4 cell counts, full blood counts, electrolytes, kidney and liver functions.

1.2.2.2 Pharmacy Involvement in ART Adherence

The role of pharmacy and pharmacists in HIV provision, and specifically the role in patient ART adherence is poorly researched. Work has been conducted to look at levels of adherence and patient understanding of ART. Badia *et al* [75] investigated how HIV patients took therapy and assessed adherence using the simplified medication adherence questionnaire adherence test; for which 40% of patients were deemed non-adherent. Work by Bisson *et al* [76] showed that a pharmacy refill adherence assessments could be used in place of CD4 counts to detect virologic failure. Watermeyer and Penn [77] assessed patient understanding around ART dosage instructions and Govender *et al* [78] demonstrated that a pharmacist-led intervention programme increased patient knowledge on ART.

1.2.2.3 Pharmacy and Pharmacists Management of HIV Patients

Several studies have explored the contribution of pharmacists in HIV outpatient clinic setting for example, Henderson *et al* [79], Ma *et al* [80], Heelon *et al* [81], March *et al* [82], Castillo *et al* [83], Carcelero *et al* [84], Levy *et al* [85], Horberg *et al* [86], Govender *et al* [78], Watermeyer and Penn [77] and community pharmacies for example, Cocohoba *et al* [87,88], Hirsch *et al* [89,90], Rosenquist *et al* [91]. Although, HIV/AIDS is a huge concern in Africa, most studies published were conducted in the US [79-82,86-91], Canada [83] Europe [84], Australia [85] and few in Africa [77,78].

According to Watermeyer and Penn [92], pharmacists have important roles to provide information, education and counselling to encourage adherence to ARV treatment regimens. Similarly, as described by Scott *et al* [93], pharmacists' roles have developed from inpatient infectious diseases training clinical pharmacists, recommending therapies for OIs seen in the hospital, to clinical pharmacists who received specialised training in the treatment of PLHA in the outpatient unit.

Pharmacist's primary contributions to HIV service provision have been found, among others, to include patients' medication adherence counselling and education on dosing intervals, review of patients' medical records in order to identify medication errors and possibilities for ARV adjustment [80,94] and dispensing of ARV drugs and tools for adherence improvement such as pill boxes [79], refill reminders, dose adjustment for renal or hepatic impairment, and monitoring for ARV adverse effects and drug interactions [80,82,85,90].

Effects of pharmacist contribution to HIV management included increase in clinic appointments being kept, improved quality of life [91], reduced ARV side effects [82] frequent hospital visits, more number of hospital days, emergency department visits [86], reduced pill burden [87], and improved daily dosing frequency adherence [80]. Several research findings [79,80,82,86,95] showed pharmacist contribution was associated with significant viral load reductions and increased CD4 cells count.

1.2.2.3.1 Global Perspectives of Pharmacy and Pharmacists Management of HIV Patients

A study carried out in the US, University of Colorado Referral Hospital, where pharmacists discussed with patients reasons for nonadherence and potential ways to overcome barriers, which included the use of pill boxes, appropriate management of ART side effects. They educated patients on the importance of adherence in preventing poor clinical outcomes associated with increases in viral load, and a pharmacy staff telephoned each patient refill reminders monthly. The authors found 25% of patients had more than 95% adherence after referral to the pharmacist-managed clinic [79]. Carcelero *et al* [84] in Barcelonan hospital, found ART-related errors affected more than one-in-five patients. The most common causes of error were contraindications or not recommended drug–drug combinations and dose-related errors which were confirmed when pharmacists reviewed and identified those errors. Similarly, Heelon *et al* [81] in

the US, reported that the duration of prescribing errors was decreased when a clinical pharmacist who monitored patients prescribed HAART intervened to resolve the errors. Also, Ma *et al* [80] at Kaiser Permanente in the US, acknowledged that HIV clinical pharmacists may play an important role in reducing pill burden and dosing frequency, increasing medication adherence, and improving clinical outcomes through recommendations for ARV regimen changes. Similarly, Hirsch *et al* [90] found that 18.2% more patients receiving ARVs from pilot Medi-Cal pharmacies, which had HIV trained pharmacists, had an adherence of 80%–120% in comparison to those not enrolled in this programme. Castillo *et al* [83] at the British Columbia in Canada, found that 14.7% more patients who obtained service from AIDS tertiary care hospital pharmacies had more than 90% adherence compared to those with off-site pharmacies and to physicians' offices. Levy *et al* [85] at an ambulatory care clinic in a hospital in Melbourne, Australia reported that participants missed 1.2 fewer doses 7 days after a pharmacist provided adherence education. March *et al* [82] in a County Hospital, California, US, reviewed the data from prospective observational study of a pharmacist managed drug optimisation clinic and made 253 interventions in 34 patients. The authors asserted that HIV pharmacists utilised patient education, addition of a medication, dosage adjustment, discontinuation of a medication, and interpretation of viral resistance tests to show significant improvement from baseline in patients' CD4 cell counts, viral loads and drug-related toxicities.

1.2.2.3.2 Sub-Saharan African Perspectives on Pharmacy and Pharmacists Management of HIV Patients

To confirm the impact of pharmacist care on ART adherence in South Africa, a study by Govender *et al* [78] found that pharmacists' intervention, through patients' education, had a positive impact on HIV infected patients' HIV and AIDS knowledge of the disease and ART usage and storage. Similarly, Watermeyer and Penn [77] in an ARV pharmacy

in South Africa, acknowledged how pharmacists confirmed patients' understandings, whereby, the pharmacists initiated patients understanding of ARV dosage instructions through patients' responses, both verbal and non-verbal responses which enabled the pharmacists to identify misunderstandings and or initiated clarification cycles. The authors found the patients appeared to have had better understanding of ART usage [77].

1.2.2.3.3 Systematic Reviews on Pharmacy and Pharmacists Management of HIV Patients

McMahon *et al* [96] reviewed the literature to evaluate pharmacy adherence measures (PAM), which included virological and other clinical outcomes, efficacy compared with other adherence measures, and factors to consider when selecting a PAM to monitor adherence. The authors found that PAM estimates can be used by pharmacists and other health care providers to promote ART adherence. Although the literature on pharmacist directed interventions is limited, pharmacy based adherence interventions have successfully combined adherence education, tailoring regimens to patient lifestyles, and the management of adverse drug reactions (ADRs), resulting in improved adherence with virological and immunological response. Similarly, Saberi *et al* [97] reviewed the literature to assess the impact of HIV pharmacists on HIV clinical outcomes and found the involvement of HIV pharmacists was associated with statistically significant adherence improvements and positive impact on viral suppression in the majority of studies.

Also, Nkansah *et al* [98] reviewed the literature which focussed on services provided by outpatient pharmacists in community or ambulatory care settings to examine the effect of outpatient pharmacists' non-dispensing roles on patient and health professional outcomes. They found only one study reviewed, which compared pharmacist services with other health professional services. However, most studies reviewed, supported the

role of pharmacists in medication and therapeutic management, patient counselling, and educating health care professionals' (HCPs) with the goal of improving patient care and clinical outcomes.

From the review of these literatures above, one can deduce that there has not been any study carried out in Nigeria, to date on pharmacists or pharmacies management of HIV patients.

1.2.3 Management of HIV/AIDS in Sub-Saharan Africa with emphasise on Service Provision and Adherence

Unsurprisingly, many studies have been carried out in SSA, especially from Southern Africa [99-102] that have investigated HIV care, ranging from healthcare staff attitudes to patient adherence. For example, a 2010 systematic review by Fox *et al* [101] determined patient retention in ART programmes. This review showed that approximately 65% of patients were still retained on programmes 3 years after initiation of ART [101]. Peltzer *et al* [102] in a South African study found that at 6 months follow up from ART initiation, over 70% of patients were adherent in their medicine taking. A Zambian study by Nozaki *et al* [103] highlighted patients commonly held false beliefs about ART that affected ART adherence, whilst Hardon *et al* [104] established that adherence was affected by costs associated with patients' care which included lost wages and transport.

1.2.3.1 Factors Facilitating ART Adherence

Certain factors have emerged to explain improved ART adherence. The important factors which support patients' continuing ART adherence established by Fried *et al* [100] included social and economic support by individuals, role models and networks as well as positive experiences within the healthcare system and of the treatment itself.

Whilst Watt *et al* [105] identified five factors that explained excellent ART adherence which included experienced improvements in their health after starting ART to support their confidence in the medication and motivated them to adhere, their perceived need to be able to meet their family responsibilities motivated respondents to stay healthy. They also developed specific strategies to remember to take pills, where they routinized pill-taking by linking it with daily activities or events, material and emotional support received from others and trust in the advice and instructions of their health care providers, who regularly emphasised adherence. Ware *et al* [106] explained adherence success in SSA through an ethnographic study where the authors found that individuals taking ART regularly, overcome economic obstacles to ART adherence through a number of deliberate strategies aimed at prioritizing adherence. Such that the patients borrowed and begged for transport money and made choices to allocate resources in favour of treatment. Resources and helps were then made available by treatment partners, other family members, friends and HCPs, whereby, helpers expected adherence and made their expectations known, creating a responsibility on the part of patients to adhere. Consequently, patients adhered to promote good will on the part of helpers; thereby ensuring help will be available when future needs arise. Also, Sanjobo *et al* [107] explored patients and HCPs perceived barriers and facilitators to patients' adherence to ART and found feeling better, prospects of living longer, family support, information about ART, support for income-generating activities, disclosure of HIV status, prayers and transport support as facilitators of ART adherence. Whilst Murray *et al* [108] identified values of church or marriage as motivating factors that affected the ability and willingness of patients to take life-saving medicine for a long period of time.

1.2.3.2 Barriers to ART Adherence

Likewise, barriers to ART adherence have also been identified. Fried *et al* [100] identified patients' main challenges to effective ART adherence as patients' difficult life circumstances, particularly, those related to poverty for example transport and food costs and health system constraints, such as perceived lack of compassion and flexibility by healthcare workers. Hardon *et al* [104] identified setting specific constraints to adherence, which included transport expenditures, registration and user fees at the private health facilities. Also, lost wages due to long waiting times at the clinics, side effects and hunger in the initial treatment phase were identified. Furthermore, Van Tam *et al* [58] established that patients found it hard to take their drugs when they were among people to whom they have not disclosed their HIV status, such as co-workers and friends. Also, Sanjobo *et al* [107] identified lack of communication and information about ART, inadequate time during consultations, lack of follow-up and counselling, forgetfulness, stigma, discrimination and disclosure of HIV status, lack of confidentiality in the treatment centres, and lack of nutritional support as barriers to ART adherence. Weiser *et al* [109] found financial constraints, stigma, travel and side effects as main barriers to adherence. Whilst Murray *et al* [108] found refusal of HIV treatment based on illness beliefs, mental and behavioural health, for example depression and or interpersonal challenges, stigma, side effects and hunger. Potchoo *et al* [110] reported forgetting, travel, cost of treatment and side effects as the main factors of missing at least once a dose intake. Badahdah and Pedersen [111] interviewed 27 HIV infected Egyptian women who had been on ART for at least three months and identified fear of stigma, financial constraints, characteristics of ART, social support and reliance on faith as factors that influenced patients' adherence to HIV medications. The authors stated that despite the numbers of adherence inhibiting factors, most of the patients interviewed were motivated to achieve complete adherence to ART.

1.2.3.3 Effect of Faith on HIV/AIDS Care

Nozaki *et al* [112] found that more than half of 389 ART patients held at least one false belief about ART effectiveness, side effects, or the consequences of ART non-retention or non-adherence despite thorough pre-ART counselling. Such beliefs included pastors can cure HIV infection through prayer and ART can be stopped without harmful effects while taking immune-boosting herbs, which were likely to reduce patients' ART adherence and retention. Similarly, Maman *et al* [113] established how HIV infected women, who were pregnant or had recently given birth, described how they relied upon their faith and turned to church leaders when they were diagnosed with HIV. The women used prayer to overcome the initial shock, sadness and anger of learning their HIV diagnosis. They turned to their church leaders to help them prepare for disclosing their diagnosis to others, including their partners. Church leaders were also important targets for disclosure by some women. Women's faith played an important role in their long-term coping strategies. With acceptance of their infection as a path chosen by God, and believing that God has the power to cure their infection, comforted and provided them with hope. Also, Zou *et al* [114] explored associations between religious beliefs and HIV stigma, disclosure, and attitudes toward ART and found that HIV stigma is strongly linked with religious beliefs such as the belief that HIV is a punishment from God or that PLHA have not lived righteously. Most of these respondents said that they would disclose their HIV status to their pastor or congregation if they became infected. Although, most respondents believed that prayer could cure HIV, almost all said that they would begin ART if they became HIV infected and refusal of ART was associated with lack of secondary education and knowledge about ARV.

Similarly, Tocco [115] found in Northern Nigeria that passages from Islamic books were regularly cited by both HIV/AIDS patients and HCPs when talking about the belief that Allah (Islamic name of God) sends a cure to human beings for every disease. Roura *et*

al [116] investigated faith leaders (FLs) and traditional healers (THs) attitudes towards ART and FLs were reported to be often opposing medical treatment with many believing in traditional healing. The authors reported that praying for the sick was a common practice. Being HIV positive was often seen as a punishment from God and a consequence of sin. As sinning could result from the work of Satan, forgiveness was possible, and reconciliation with God deemed as essential for a reprieve. While prayers could cure HIV completely, ART use was not discouraged by the FLs as God had only a part to play.

1.2.3.4 Effect of Knowledge on Adherence

Potchoo *et al* [110] assessed knowledge of adult patients and compared them with their ART adherence level. The authors found more than half of the patients knew the name of ART prescribed and all patients had a good knowledge of treatment schedule. The average adherence rate was 89.8% of the total doses prescribed while over half of the patients had an adherence rate of 95% or above. Hegazi *et al* [117] similarly assessed the relationship between patients' literacy and education to ART adherence and found formally educated patients were significantly more likely to achieve low viral load.

1.2.3.5 HIV Status Disclosure and Gender Issues

Shamos *et al* [118] identified high levels of felt stigma in all settings, though, fewer than anticipated accounts of expressed stigma in family, work, and neighbourhood settings. Also, the amount and characteristics of felt and expressed stigma and social support differed based on gender, as women often experienced more felt and enacted stigma than men and had less definite financial or emotional support. Anglewicz and Chintsanya [119] found that HIV status disclosure was relatively common among rural Malawians, where most of them have shared their status with a spouse and many

disclose to others in the community, still, there were differences in disclosure patterns by HIV status and gender. Women, who perceived greater HIV/AIDS stigma are less likely to disclose HIV status to a spouse, and men who were worried about HIV infection from extramarital partners were less likely to disclose their HIV status to a spouse. Also, the authors found that self-reports of HIV-positive men were of questionable reliability. Deribe *et al* [120] established that most patients disclosed their result to at least one person and their partner. However, some disclosures were delayed while some did not know their partner's HIV status. Among those who did not disclose, more than half of them gave their reason as fear of negative reaction from their partner, though, few of those who eventually disclosed reported any negative reaction from the partner and most reported that their partners supportively reacted to their disclosure. Dageid *et al* [121] found that 20 out of 23 men interviewed disclosed their HIV status to one or more persons, with partners and siblings being the preferred confidants. Disclosure was dependent on the acceptance of HIV status, perceived support, healthy relationships with others, HIV counselling and participation in educational and training activities. While those who did not disclosed stated that it was as a result of stigma, fear of rejection, discrimination, a lack of healthy relationships with others and lack of access to suitable disclosure strategies. Negative perceptions of HIV and controlling ideas of masculinity hindered men from disclosing and seeking health services.

1.2.4 Nigerian Studies relating to HIV/AIDS

1.2.4.1 Facilitators and Barriers of ART Adherence

Charurat *et al* [122] reviewed clinic records of adult patients initiating ART and evaluated non-adherence through calculated pharmacy refill rates. They identified factors associated with left to follow up (LTFU) and non-adherence, which included only primary education, baseline CD4 counts more than 350 or less than 100 compared to

baseline CD4 counts of 100–200. Also, younger than 35 years, travelled more than 2 hours to the clinic, ART duration of more than 6 months, with CD4 counts of more than 200 at ART initiation. Whilst being female, post-secondary education, and initiating treatment with zidovudine containing or tenofovir containing regimens were associated with decreased LTFU. However, disclosure of HIV status to spouse or family and treatment with tenofovir containing regimens were associated with better adherence.

Uzochukwu *et al* [123] found that all participants understood the need to take ARV drugs throughout their lives; the involved expenses, the need for periodic testing, the probability that complications would develop, cost of transportation to treatment site and the daily treatment regimen. However, the authors found that 75% of those patients were not fully adherent to their drug regimen. Their reasons for non-adherence included side effects, non-availability of drugs at treatment site, forgetting to carry drugs during the day, fear of social rejection, treatment being a reminder of HIV status, and selling of own drugs to those unable to enrol in the projects. Being female, under 35 years, single, and having higher educational status were significantly associated with non-adherence. Similarly, Alakija *et al* [124] found that older age and males associated well with adherence, thus, adherence among the young age and females needs strengthening. While Erah and Arute [125] found that adherence was dependent on adverse effects and educational level of patients and also identified that poor financial status, lack of confidentiality, occupational factors and stigma were the major reasons cited for nonadherence. Okoli and Cleary [126] found that high cost of transport, stigma and long waiting hours were found to be main barriers to ART services usage, though, patients usually spent under four hours at the clinic during their monthly appointments. The use of personal savings and financial support from relatives were the main means to access treatment. While transport costs were a chief concern among the poorest, well to do ones were more concerned about stigma and discrimination.

Shaahu *et al* [127] found that availability of ARV and ability to afford regular visits to the clinic among other factors, positively influenced adherence to HAART among PLHA. Also, a recent diagnosis of HIV made less than 3 years prior to the study period was also significantly associated with adherence to HAART. Olowookere *et al* [128] found that about a third of patients reportedly missed their medication because of fasting. Also, patients who felt healthy or forgot to take their drugs and those not willing to disclose their HIV status were associated with low adherence. However, Habib *et al* [129] found in another study that adherence and drug taking frequency appear uncompromised in fasting HIV patients. Similarly, Yakasai *et al* [130] investigated once-daily and compared to twice-daily dosed ritonovir boosted lopinavir with fixed-dose tenofovir-emtricitabine once-daily among 17 stable fasting patients in Nigeria. The authors found that effectiveness; safety and tolerability of the ARV appeared unaffected by the changes as there were no changes in adherence.

1.2.4.2 Health Care Professionals Knowledge and Roles in HIV/AIDS

In 2006, Idigbe *et al* [131] evaluated HCPs training programme in Nigeria, examined their knowledge and skills gained with providing ART. The authors found that 13 out of 15 treatment centres had ART adherence counselling structures in place and pharmacists were involved in the adherence counselling of patients. Similarly, in 2009, Zungu *et al* [132] investigated the availability of national ART guidelines (NATG) and their utilisation through self-administered questionnaire by HCPs from five treatment centres in Abuja, Nigeria. The authors found that out of 97 HCPs who participated in the study, 21 were unaware of the existence of the NATG in their treatment centres. About 50 reported that they did not have access to the NATG as opposed to 47 who had access to the guidelines. Furthermore, 16 of the participants confirmed that they had access to an institutional copy of the NATG whilst 14 indicated that they had individual

copies and only three stated that they had individual copies and access to the hospital copy as well. Regarding utilisation of the NATG, 40 rarely used them, 32 never used them and only 25 often used them. The most frequent use of the NATG was among pharmacists compared to the least frequent use amongst nurses.

Oyeyemi *et al* [133] reported low levels of knowledge and poor attitudes towards PLHA amongst Nigerian nurses. Attitudes appeared to be influenced by the nurse's speciality, rank, prior education and experience with patients with HIVAIDS and also, the responding nurses showed low levels of ease in giving care to those patients. Also, Oyeyemi *et al* [134] found in another study that the Nigerian physiotherapists showed unsatisfactory knowledge about AIDS, harboured negative attitude towards PLHA, and some were unwilling to provide care for PLHA. Previous experience of caring for PLHA influenced their attitude, and modest but positive relationships were found between knowledge and attitude and between attitude and willingness.

Umeh *et al* [135] found a reasonable level of knowledge among all HCPs, with the highest level of knowledge among the doctors and the lowest among laboratory workers. There was a significant gender difference in the level of knowledge with less females but the data suggested that knowledge did not differ by hospital settings. There were generally, negative feelings and views about the care of PLHA among the professionals, these views being worst at the community health centres and best at the government hospitals. The greatest source of information for the majority of HCPs was health talks or seminars, and those respondents who got their information from school scored the highest on general knowledge of HIV/AIDS.

Azodo *et al* [136] assessed the role of dentists in the prevention of HIV transmission in Nigeria and found HIV education by dentists was ranked as poor, as less than a quarter of respondents regularly educated patients on HIV in the clinic. The authors reported that only a few dentists were involved in public enlightenment programme on HIV in the

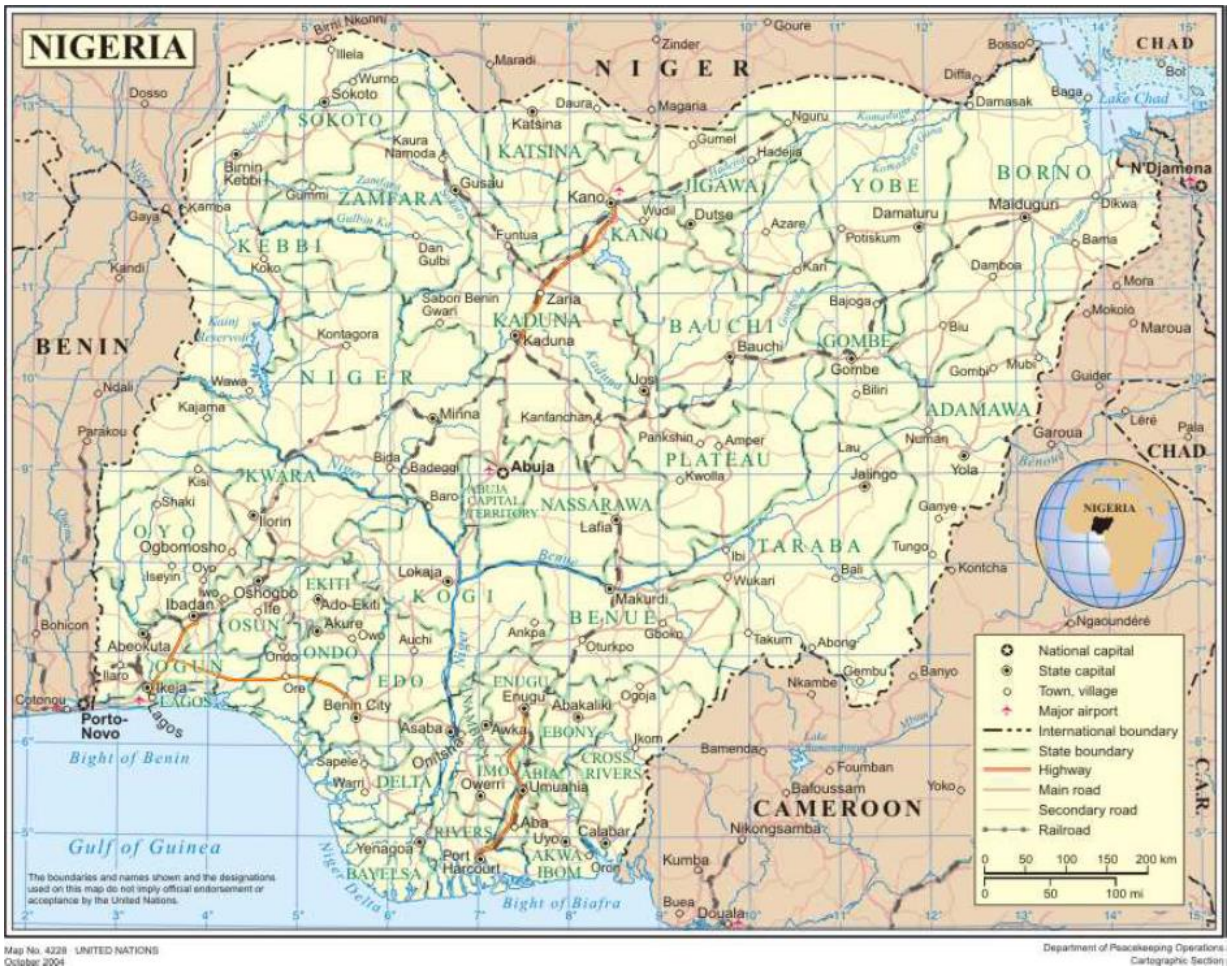
preceding 12 months. Most of the respondents reported a willingness to treat HIV-infected patients while observing universal precautions. Good infection barrier practices were adopted by most of them, and disposable cartridges for local anaesthetic agents and dental needles were not reused. Autoclaving was the most widely used sterilization method, but less than half of the respondents knew how to ascertain whether sterilization was effective.

1.3 Nigeria – An Overview

1.3.1 History and Geographical Location

Nigeria is named after the largest river in West Africa, and Africa's third longest river, the Niger River [137,138]. Nigeria gained independence from the UK on 1st October 1960 and was officially named the Federal Republic of Nigeria on 1st October 1963 [139]. Nigeria is situated between the Gulf of Guinea to the South, Benin to the West, Cameroon to the East, and Niger and Chad to the North (Figure 1.2) [140]. The country extends from latitude 4 to 14 degrees North and from longitudes 2 to15 degrees East. It has an area of 923,768 square kilometres, which includes about 13,000 square kilometres of water [141]. Nigeria observes Nigeria Standard Time, which is Greenwich Mean Time plus one hour.

Figure 1.2: Location of Nigeria in West Africa



Source: WHO, 2009

1.3.2 Terrain

1.3.2.1 Rivers

Nigeria's principal rivers are the Niger–Benue and the Chad. The Niger River flows 4,184 kilometres from Guinea through Mali, Niger, Benin, and Nigeria before emptying into the Gulf of Guinea. The Benue River, the Niger's largest tributary, flows 1,400 kilometres from Cameroon into Nigeria, where it empties into the Niger River [142]. The

Chad River is made up of several tributaries that merge into the Yobe River, which then flows along the border with Niger before reaching Lake Chad [143].

1.3.2.2 Topography

Nigeria's most extensive geographical features are the valleys of the Niger and Benue Rivers, which merge into each other [144] and form a "Y" shaped confluence at Lokoja in Kogi state [145]. Other notable features include Chappal Waddi Mountain, in Taraba state, which is 2,419 metres high, making it the highest point in the country [146]. The elevational pattern of most of Nigeria consists of a gradual rise from the coastal plains to the Northern savannah regions, generally reaching an elevation of 600 to 700 metres. At higher altitudes, broad stepped plateau reaching more than 1,200 metres in elevation, are found in areas of the Jos, Plateau [146].

1.3.2.3 Rainforest

Nigeria has lost about 47.5% of its total forest between 1990 and 2010 through logging, bush burnings, agriculture, urbanisation, industrialisation and high population growth [147]. In an attempt to preserve the remaining forest, the government set up the Cross River National Park in 1991 [148], which is Nigeria’s largest remaining area of rainforest and is home to a wide diversity of fauna, many of which are endangered, and include gorillas, leopards, chimpanzees, elephants and monkeys [149].

1.3.2.4 Climate

The climate in Nigeria varies geographically: the north is dry; the central belt is humid and the south has typically equatorial weather [150]. Wet seasons are associated with South West monsoon winds, while dry seasons are associated with North East winds from the Sahara Desert [151]. The rainy season extends from March to November with

the heaviest rainfall usually recorded in August [150]. Nigeria's temperature is generally high year round but it can fall to as low as 13°C during the coldest months of the year, which are between December and February. Mean maximum temperatures are 32°C to 41°C [150].

1.3.3 Population

Nigeria is a multi-ethnic country, encompassing over 250 ethnic groups, the major groups being Hausa/Fulani (28%), Yoruba (21%), and Igbo (19%) [152]. It is the most populous country in sub-Saharan Africa, having an estimated population greater than 140 million: the latest census (2006) reporting six cities with populations greater than 1 million; Lagos being the most populous with a population greater than eight million [153]. The official language of Nigeria is English; however, there are over 250 native languages, the most common of which are Hausa, Ibo and Yoruba, corresponding with the major ethnic groups [154].

1.3.4 Political History

The political history of Nigeria can be traced back to the 16th century, when the Songhai Empire in Northern Nigeria stretched from the Senegal and Gambia rivers, in the far West, and included part of Hausa land in the East. At the same time, the Sayfawa Dynasty conquered the Kanem-Bornu Empire, and extended its control Westward to the Hausa cities that were not under Songhai rule. To an extent, Northern Nigeria was part of one, or other, of these empires for over a hundred years, until the Sayfawa Dynasty conquered the region in 1590 and ruled for the next 200 years [137]. This tribal partition of land continued into the early twentieth century until the nation state of Nigeria was established by the British in 1914 [155].

After Nigeria confirmed independence from Britain, Dr Nnamdi Benjamin Azikiwe was chosen as the first indigenous civilian president, and commander in chief of the armed forces in 1963 [137]. Over the subsequent 50 years, Nigeria has seen a number of coups, resulting in military rule for at least 30 of these 50 years [156]

Recently, Dr Goodluck Ebele Jonathan, who inherited the Nigerian presidency on May 6th 2010 following the death of his predecessor President Umaru Yar'Adua, won elections in April 2011 and became the 14th president of Nigeria for a four-year term [157].

1.3.5 Political Structure

Prior to Nigeria gaining independence, it was a federation of three regions (administrative units governed as semi-autonomous regions), namely Eastern, Northern and Western [137]; shortly after independence, two areas in the Western region were detached to form a Mid-Western region, thus forming four administrative regions [137]. Following the military coup of 1966, these regions were replaced by 12 states, which were expanded to nineteen in 1976 and to thirty by 1991 [155]. Today, there are 36 states with a Federal Capital Territory (FCT) in Abuja (the capital city since 1991) and 774 local government areas (LGAs) [153]. The states have been established based on geographic proximity and ethnicity. In addition, for administrative and other political purposes, Nigeria is also subdivided into six geopolitical zones: North-West; North-East; North-Central; South-West; South-East; and South-South (Figure 1. 3) [158].

Figure 1.3: Map of Nigeria showing the Geopolitical Zones

Source: WHO, 2009

1.3.6 Government Structure and Constitution

Nigeria is based on a Federal system; a president having executive powers, and elected upper and lower legislative chambers comprising a Senate and a House of Representatives [152]. Each of the 36 states is governed by an elected Governor, Executive Council (including commissioners) and House of Assembly [159]. Nigeria's current constitution, which is the fourth since independence, came into force on May 29th 1999, and is the supreme law of the country [155]. The constitution allows for a separation of powers among the three branches of government; an executive, an elected legislature and an independent judiciary, even though the executive, and/or the president, have much more power compared to the other two groups. The constitution

affirms personal freedom and a secular state, however, it allows Muslims to abide by Sharia (Islamic law) [160].

1.3.7 Religion

Nigeria's population is split primarily between Islam (approximately 50%) and Christianity (40%), with about 10% of the population adhering to traditional beliefs. Muslims constitute the majority in the north and Christians are the majority in the south [154].

1.3.8 Economy

Nigeria is rich in natural resources, not only oil, but also natural gas, tin, iron ore, coal, limestone, lead and zinc [161]. Prior to the discovery of oil in Nigeria, the economy depended mainly on agriculture, which provided for foreign export and for local consumption. However, since the early 1980's, oil production has contributed more than 75% of the gross domestic product (GDP) of Nigeria [162].

1.3.9 Education

There are three basic educational systems in Nigeria; the indigenous system, the Qur'anic (Islamic) schools, and formal Western educational institutions [163].

The traditional (indigenous) system of education starts from infancy by immediate family members, mainly to shape the character of individuals [164]. The Islamic educational system exists mainly in Northern Nigeria, and most children attend Qur'anic schools from the age of five, where they learn the Qur'an. Qur'anic education entails learning to read and write in Arabic and some children go on to specialise in religious studies, though most children who enrol in Qur'anic schools, subsequently enrol in Western schools [163].

The formal Western education system consists of six years of primary school, starting from age of 6 years [165], three years of junior secondary school, three years of senior secondary school, and four years of university education leading to a bachelor's degree.

In 2006, adult literacy was reported to be 57% in Nigeria [163]. Nigeria provides free, government-supported education, but attendance is not compulsory at any level [166], and certain groups such as nomads and the handicapped are underserved [167].

1.4 Healthcare System

Healthcare in Nigeria is based on a mixture of orthodox (Western) medicine and alternative medicinal practice [168]. Orthodox medical care is available from three sources, namely: government, private and charitable (Christian missionary facilities such as the Church of Christ in Nigeria and the Roman Catholic secretariat of Nigeria, PEPFAR) sources [169].

1.4.1 State (Public) Healthcare Services

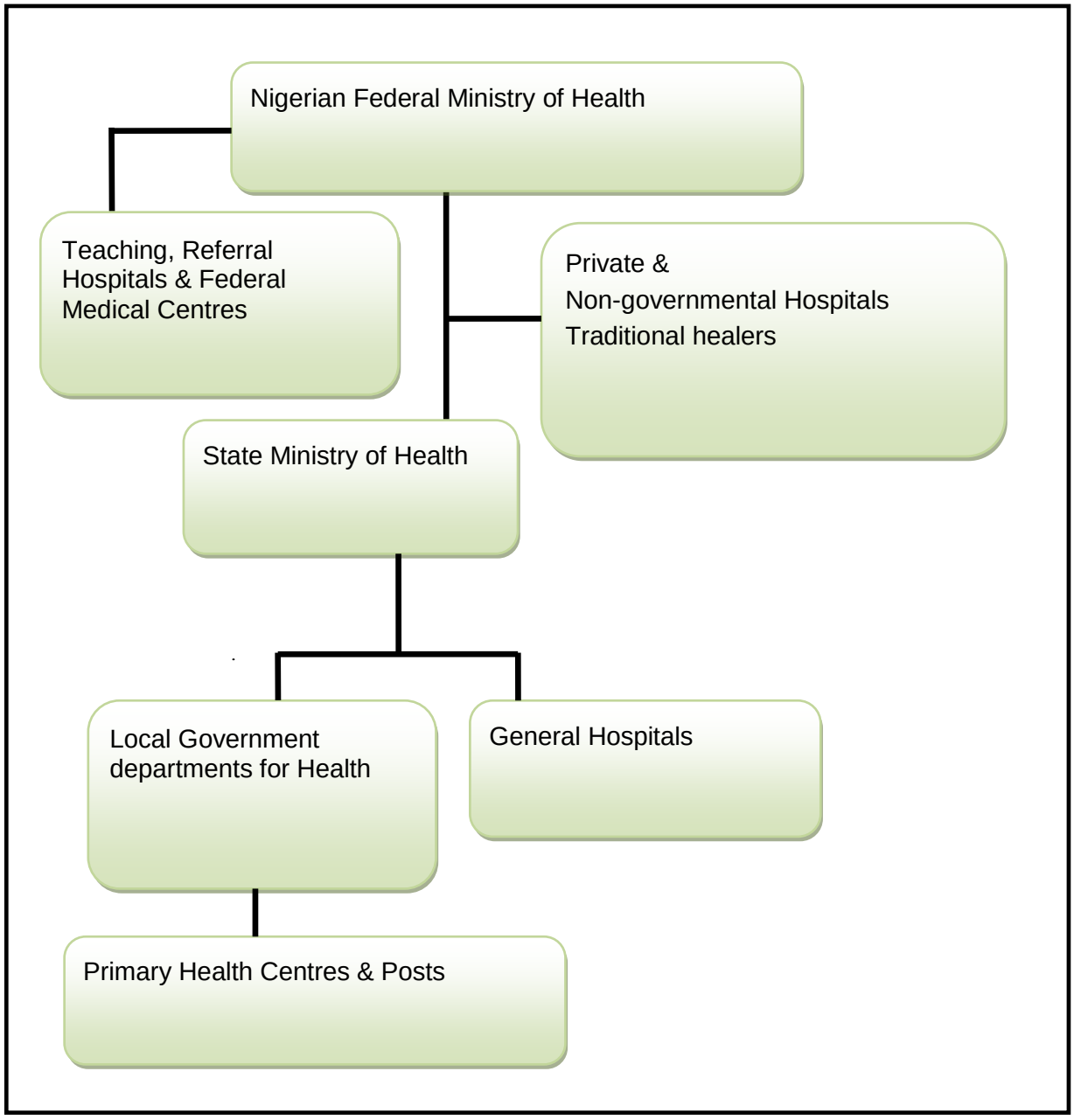
The Nigerian national healthcare system provides three tiers of healthcare; primary, secondary and tertiary [170], based on the three-tier government system. They are the responsibility of the Federal, State and Local Government authorities respectively [171]. Similarly, the administrative structure of healthcare in Nigeria is based on three levels of health administration, namely the Federal Ministry of Health (FMoH), which is the tertiary level, the State Ministry of Health (SMoH), which is the secondary level, and Local Government Health Departments (LGHD) which is the primary level; the FMoH being the overall health policy making body [172]. Each of these administrative levels finances their healthcare services mainly from the Federal government annual allocations to each sector and from local internal revenue generation [171].

Ideally, referral from medical doctors should be the link between these three healthcare tiers [171], but Nigeria has a poor and dysfunctional primary healthcare (PHC) foundation in favour of hospital care [173]. Primary health centres are supposed to be the point of first contact for patients, but patients often will have attended a tertiary health centre without any referral from a medical doctor [174]. This can lead to congestion in the secondary and tertiary health facilities with conditions that should be managed via PHCs. However, tertiary organisations also provide some PHC services through their general outpatient departments, which further complicates patient access to healthcare services [174].

The primary responsibilities of the PHCs are to provide basic health services, such as health education, family planning, childhood immunisation, control of locally endemic diseases including non-communicable diseases, provision of essential drugs and treatment of minor injuries and ailments [173]. Generally, highly specialised services such as fertility clinics, intensive care units, mental health facilities and kidney dialysis centres are accessed at secondary and tertiary levels [171]. This therefore tends to exclude those living in rural areas, as these centres are located in urban areas [175].

The Nigerian government operates teaching hospitals and federal medical centres, state ministries of health, local government departments of health, general hospitals and primary health centres and posts (Figure 1.4) [175].

Figure 1.4: Nigeria Health System Structure



Source Omoruan *et al*, 2009

1.4.1.1 Payment under State Healthcare

Patients attending government hospitals are expected to pay for their healthcare [176] with the exception of consultation fees. This includes their hospital registration cards, medicines, stay whilst in hospital and any laboratory services required [177].

1.4.1.2 National Health Insurance Scheme

Nigeria introduced a national health insurance scheme (NHIS) in June 2005 [178]. Registration by each person then covers the spouse and up to four children under the age of 18 years [178]. Every participant contributes 5% of their basic salary each month and employers contribute 10% of the total cost [175,178].

1.4.2 Private Healthcare Services

Private healthcare is available at both a formal level (pharmacy shops, hospitals, laboratories) and an informal level [177]; drug hawkers carrying and selling medicines in baskets; injection doctors (unqualified people who move from house to house, or shop to shop, with injectable medicines to inject for fees) and finally, visits to spiritual healers [168]. Also, there are medicine stores, where individuals can purchase simple over-the-counter drugs for the treatment of common illnesses [179].

Formal places of healthcare delivery may be registered, regulated, premises (e.g. hospitals) while the informal ones are unregulated [180] although, these informal service providers are not acknowledged within the formal health service. Those who mostly utilise informal health services are poor people, and rural dwellers, who use them by choice, or necessity, due to beliefs and practices, lack of awareness, cost or ease of access [181].

1.4.3 Lay Healthcare

There are several options for patients who wish to access healthcare. These include self-medication at a medicine store, community pharmacy, drug hawkers, a visit to a traditional healer, or a visit to a private or public hospital [182]. General Practitioner (GP) surgeries, as available in the UK, are not available.

The first point of contact is usually to speak to a close family member, a reliable friend or a neighbour, and to ask for advice on self-diagnosis and/or which medicines to use. This person will often supply, or recommend, medicines to the patient. However, if the condition persists, the patient will make a choice of where to visit next among the places mentioned above for further help.

Thus, the practice of self-care is common in Nigeria [183] and often involves seeking advice or treatment from a traditional healer, rather than using government-run (public) health services [184].

In general, the educated and rich take the option of accessing community pharmacies, or private hospitals, as the first choice in preference to government-run hospitals, as they offer a faster service. However, people living in rural areas, who tend to be the poorer and less well educated, think of herbal or folk antidotes as first line treatment [185]. Their second alternative is usually medicine stores, where orthodox pharmaceutical products are sold on a retail basis without having any formally trained (legal) pharmacist involved [180]. In this situation, the vendor in charge of the store may supply any product, based on the patient's ability to pay [179].

A further complication for many rural dwellers lies in the fact that many are convinced that illness must have been the handiwork of their enemies, just as every evil deed is credited to the devil. There is nothing 'normal' about ill health to a layperson in Nigeria.

1.4.4 Social Deprivation

Although Nigeria generates high revenues from crude oil, there is still a very high rate of poverty due to poor governance [156,186] and the country ranked 156th out of 187 on the United Nations Human Development Index (HDI) in 2011 [187]. Nigeria's economic growth has not improved the welfare of the majority of the population [158]. For example, in 2007, only 72% of urban residents and 49% of rural residents, had access to safe drinking water, which was unreliable and of poor quality; just 48% of urban residents and 30% of rural residents had access to adequate sanitation [188]. Furthermore, many Nigerians devote one to three hours of their day to the task of collecting water for domestic use. Similarly, the stability of the electricity supply is extremely unreliable [156].

1.4.5 Epidemiology of Major Diseases

In 2009, the life expectancy for males was estimated to be 53 years and 54 years for females [189]. Furthermore, Nigeria has one of the highest child mortality rates (86 per 1000 live births in 2007) and maternal mortality rates (800 per 100, 000 births in 2007) in the world [158].

Malaria is a major health problem in Nigeria and is the main cause of morbidity and mortality in infants, young children and pregnant women [179]. Furthermore, half of the Nigerian population experience one episode of malaria per year, whilst children under-five experience two to four malarial attacks each year [190]. Other highly prevalent diseases in Nigeria include poliomyelitis, hypertension, tuberculosis (TB), Guinea worm, pneumonia, measles, gonorrhoea, typhoid and chicken pox [171].

1.5 HIV/AIDS in Nigeria

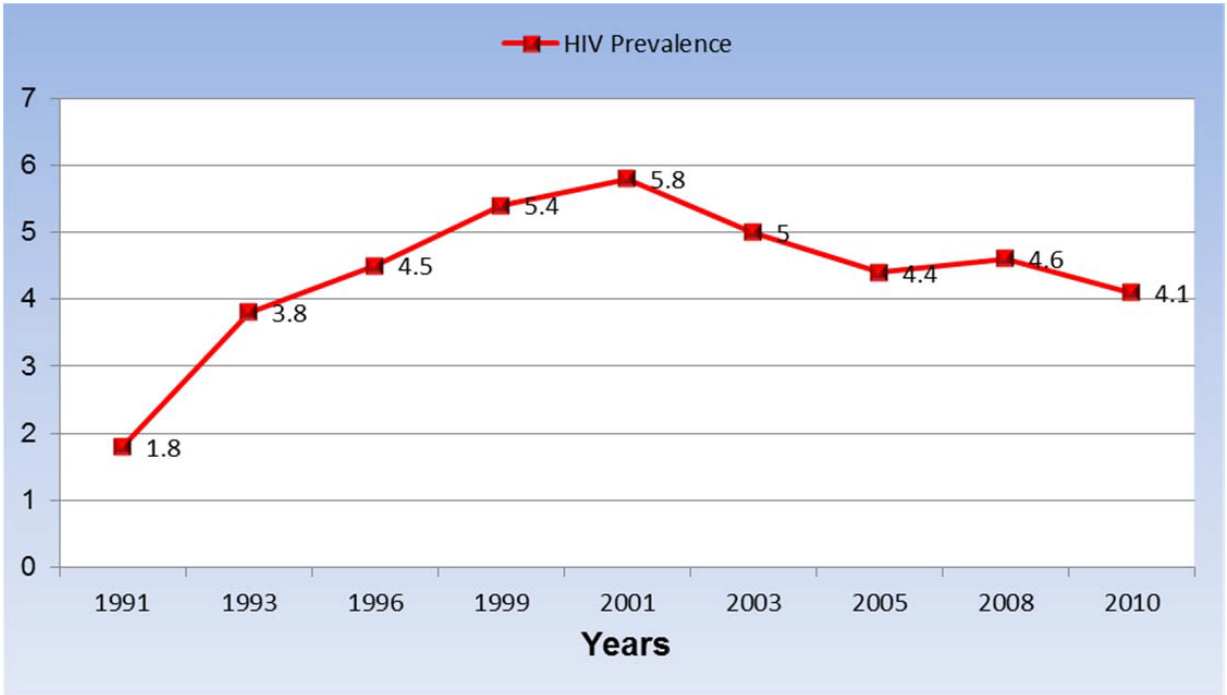
1.5.1 Identification of HIV in Nigeria

HIV was first detected in Nigeria in a sexually active 13-year-old girl in 1985 and reported in 1986 [191]. Subsequently, some commercial sex workers tested positive for HIV [192]. From then onwards, AID (layperson's word for AIDS) has become a household phrase in some parts of Nigeria. When someone suddenly falls sick in Nigeria, every neighbour who has heard about it would want to be sure that the sickness was not associated with HIV, because being infected with HIV/AIDS is perceived as a death sentence [193,194]. Furthermore, most deaths resulting from brief illnesses are suspected by non-HCPs to be HIV/AIDS-related.

At the end of 2011, in Nigeria, an estimated 3.7% of the adult population were living with HIV/AIDS [195], thus, HIV/AIDS is one of the most significant public health problems in Nigeria [122]. Nigeria is second only to South Africa in terms of the number of persons living with HIV/AIDS [6] and it was reported that the population of Nigeria accounted for about 10% of the global HIV burden [196]. HIV is highest in young women and men in their most productive years [192,197] and at the end of 2010, among the 30-34 years age group. The HIV trends in HIV/AIDS prevalence in Nigeria at the end of 2010 is shown below (Figure 1.5) [191]. Nigeria's HIV prevalence appears to have stabilised over the past 11 years, sliding from 5.8% in 2001 to 4.1% in 2010 among the general population. HIV/AIDS prevalence increased steadily from 1.6% to 5.8% in the period between 1991 to 2001 until 2003 when the first downward was recorded at 5.0%. That could be attributed to efforts made by the National Agency for the Control of AIDS (NACA) lunched in 2002 by the Nigerian government. NACA was mandated to coordinate the overall HIV/AIDS response, control the spread of HIV/AIDS through

advocacy, information, education campaigns and break down barriers to HIV prevention. It also focuses on the treatment and care of PLHA [126].

Figure 1.5: Trends in HIV/AIDS Prevalence in Nigeria, 1991-2010



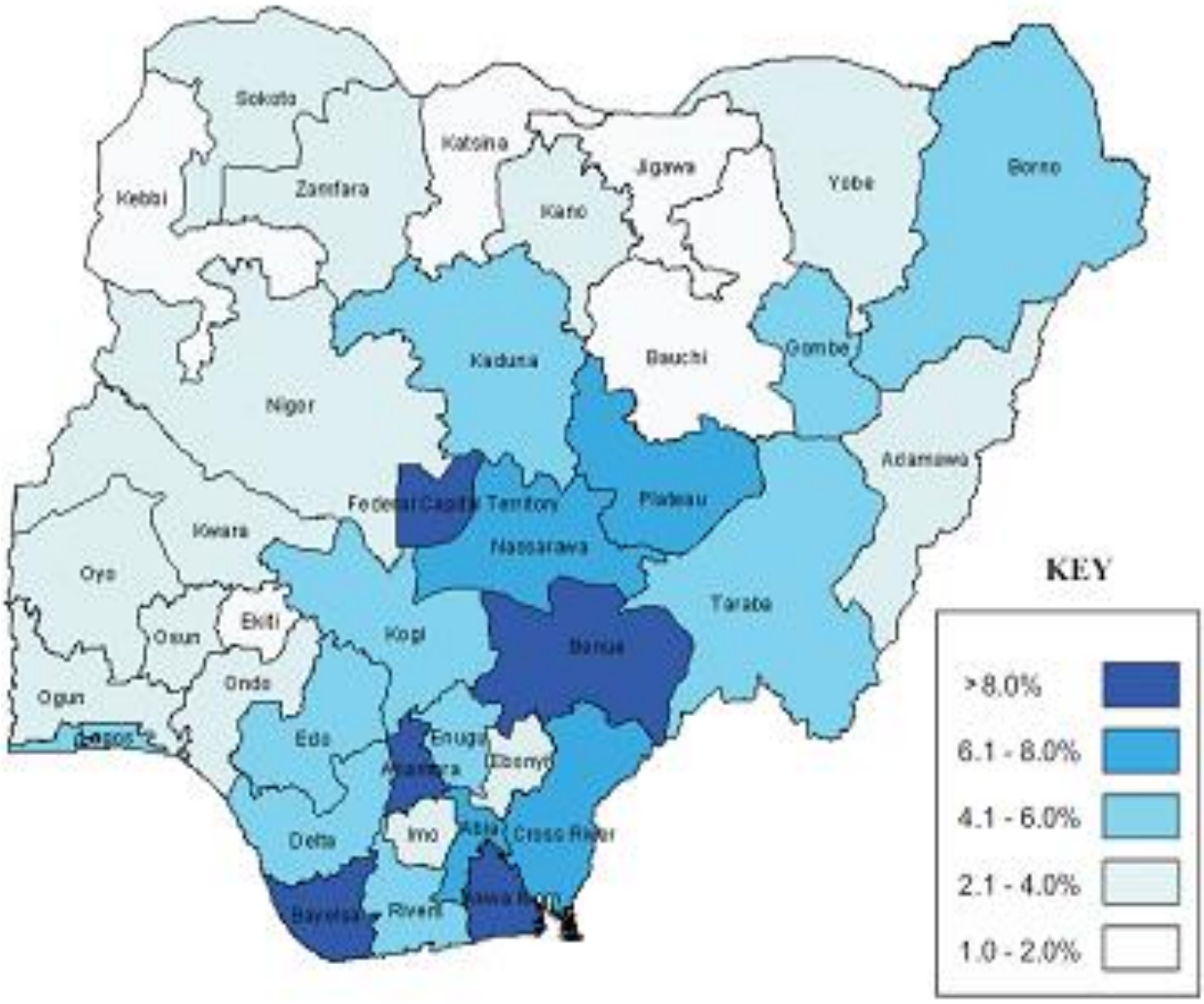
Source: NACA, 2012

At the end of 2010, HIV/AIDS prevalence was highest in urban areas, and the North Central zone, particularly Benue State [191]. There is significant variation in HIV prevalence among regions, states and localities (Figure 1.6) [169]. At the regional level, HIV prevalence ranges from 2% in the South-West up to 7% in the South-South. Prevalence at state level ranges from 1% in Ekiti state in the South West zone to 10.6% in Benue state in the North-Central [191]. While the lowest rates are reported mainly in the North-West states of Katsina, Kebbi and Jigawa, North-East state of Bauchi and South-West state of Ekiti, with prevalence rates of 2.0% or less. The large population of Lagos state had a prevalence rate of 5.1% and there is no state in Nigeria that is not

affected by HIV/AIDS [191]. More than 80% of HIV transmission in Nigeria is through heterosexual sex and the populations at higher risk of HIV infection are sex workers (25%); men who have sex with men (MSM, 17%) and injecting drug users (IDUs, 4%). Some of the main factors responsible for the high rate of HIV/AIDS in Nigeria are high illiteracy, sexually transmitted infections (STIs), poverty, low condom use and general lack of perceived personal risk [191].

Also, there are a number of possible explanations for the regional diversity, e.g. the lower rates in the North may be linked to higher rates of male circumcision, less or none alcohol consumption in the largely Muslim populations and women constraint [193,198]. Whilst areas of high prevalence in the North-Central may be associated with a higher prevalence of sex workers from the region which, was partly due to marginalisation, coupled with culture and low levels of education resulting in low condom use [199]. The impact of HIV/AIDS in Nigeria results in a reduction in life expectancy, a decrease in the size of the workforce and an increase in the number of orphans. This ultimately imposes a massive strain on the healthcare system, which further weakens an already weak system [135,184].

Figure 1.6: Map of Regional Distribution of HIV Infection in Nigeria, 2010



Source: Ezegbe and Stephenson, 2012

1.5.2 Conflicting Cultural Practices in Nigeria

Nigeria has a male-dominated society, where women are viewed as inferior to men, and their traditional role is to care for their children and the home [199,200], early marriages and polygamy [201]. Furthermore, in Nigerian society, a wife is not protected; being unable to prevent her husband from taking other wives, or having extra-marital affairs.

Since most Nigerian women are not educated, some social and cultural practices such as ‘they are to be seen and not heard’ increases their vulnerability to HIV infection.

1.6 Rationale for this Study

Whilst some studies have explored HIV/AIDS roles, knowledge, beliefs and practice in Nigeria among different HCPs, for example, dentists [136], nurses [133,135,202], medical doctors [134,203], laboratory scientists [135], physiotherapists [134], no study known to the researchers has explored the pharmacists’ role in delivering care to adults in Nigeria who are infected with HIV.

Furthermore, pharmacists are the drug custodians and experts in medicines and, in Nigeria; they are normally the last HCPs the patient sees before being discharged from hospital as regards medicine usage.

1.6.1 Gap in the Literature

There is a gap identified in the literature about roles of pharmacies and pharmacists in the management of HIV/AIDS patients in Nigeria. It is clearly evident that pharmacists have roles in the management of HIV/AIDS patients akin to other HCPs in Nigeria as Idigbe *et al* [131] confirmed that pharmacists were involved in ART adherence counselling. Similarly, Zungu *et al* [132] found that pharmacists made use of the NATG more frequently compared to the least users, the nurses. However, pharmacy roles in the management of HIV patients have not been explored in the literature. Thus, in order to be able to elucidate the roles of pharmacies and pharmacists in Nigeria, there is a need to find out the experiences of patients during their visits to the HIV clinic. Consequently, generic questions about patients’ experiences at a HIV clinic in Nigeria will be utilised to search for generic roles of pharmacies and pharmacists’ impact on these patients’ management.

1.6.2 Aims of the Study

This study aims to explore the service provided by hospital staff, with emphasis on the pharmacy provision, for adult HIV patients attending an outpatients' clinic at Maitama District Hospital (MDH).

1.6.2.1 Why Maitama District Hospital is selected for this Study

Maitama District Hospital is one of the major government hospitals in Abuja that is expected to provide the best general medical services and particularly, HIV/AIDS services for patients due to its proximity to the office of the president of Nigeria (State House). Also, people seeking for medical services at MDH come from every state in Nigeria, Thus, every tribe in Nigeria is fairly represented amongst patients in attendance at MDH. Hence, the researcher thought that about the best practice for providing HIV/AIDS services for outpatients in government District hospitals in Abuja should be at MDH as precedence for other prototype hospitals in Abuja.

1.6.3 Research Questions

This study seeks to elicit the contribution that pharmacy may make to the management of HIV/AIDS patients at MDH, in Abuja, Nigeria. In the light of a paucity of data at this site, and in line with the principles of grounded theory (GT), it was thought appropriate by the researcher to elicit at a fundamental level the perceptions of patients, as to the management of their HIV/AIDS by the hospital; the factors that govern their perceptions and expectations and, finally, the views of pharmacists and hospital management as to the quality of the service provided. Thus, two major research questions were addressed; these being:

1. What are the patient perceptions concerning the management of their HIV/AIDS at MDH?
2. What are the perceived barriers to the treatment of adults infected with HIV at MDH?

2. CHAPTER TWO - METHODOLOGY

2.0 Introduction

This chapter reviews the planning and implementation of this study, and explains the rationale for the use of grounded theory (GT). It discusses the procedure by which the research was conducted with a justification for the chosen approach. It addresses the research methods adopted for capturing data required to achieve the research aims. Qualitative research methodology is applied in this study to understand participants' experience as regards HIV service provisions in Nigeria and subsequently, identify pharmacies' roles in the management of HIV/AIDS patients in Nigeria. Furthermore, the research is exploratory and descriptive in nature, which will assist in understanding emerging issues that are related to management of HIV/AIDS in Nigeria.

2.1 Statement of Research Questions

Informed by the literature reviewed in the previous chapter, the research questions of this study are as follows:

1. What are the patient perceptions concerning the management of their HIV/AIDS at MDH?
2. What are the perceived barriers to the treatment of adults infected with HIV at MDH?

2.1.1 Research Paradigms, Conceptual or Theoretical Framework

Bunniss and Kelly [204] defined paradigms as sets of beliefs and practices, which researchers hold on to as norms of inquiry within different research fields. Also, Bordage [205] stated that conceptual or theoretical frameworks are like lighthouses and lenses, which clarifies and magnifies comparisons of research studies. Furthermore,

Bordage [205] defined conceptual frameworks as ways of thinking or studying about a problem or portraying how complex things do happen the way they do. The author further stated that emphasise on various variables and their ultimate results and overlaps are influenced by different frameworks [205]. Rees and Monrouxe [206] stated that researchers consistently express and adopt philosophical beliefs whilst they carry out research enquires whether acknowledged clearly or implicitly. Thus, the approach a researcher takes, whatever its form, reflects a position taken methodically to justify the philosophical ideas in the research and issues of ontology and epistemology [207]. Similarly, Bunniss and Kelly [204] maintained that the researcher's ontological, epistemological and methodological views, all affect the methodology adopted, which also influences the research methods applied in the research. Thus, Mills *et al* [208] emphasised on the researchers contentment with the choice of GT methodology, identification of ontological and epistemological position from the beginning, which will enhance their beliefs in the study methods.

2.1.1.1 Ontological Stance

According to Bunniss and Kelly [204], ontology is the branch of philosophy which concerns the nature of fundamental existence in the world and is a view about the nature of social reality [209]. The researcher may deem the social world as being composed of recognisable objects and processes, e.g. the physical world or as the product of the perceptions and actions of people [207]. One of at least two contrasting views may be taken regarding social reality, objectivism or constructivism [204]. Ontological perceptions of qualitative study are generally subjectivism or constructivism whilst that of quantitative study is objectivism [209].

2.1.1.2 Epistemological Stance

According to Petty *et al* [209], epistemology is the means by which researchers acquire knowledge about reality and the assumptions or approaches taken towards the study of social reality. A number of contrasting views may be taken, including positivism and interpretivism [209]. Bunniss and Kelly [204] acknowledged that a positivist view agrees with an objectivist ontology, and takes the position that social reality can be studied objectively by the researcher and the researcher is deemed as being capable of studying the social world without influencing it. Epistemological perception of qualitative study is generally interpretivism whilst that of quantitative study is positivism [209].

2.1.1.3 This Study Philosophical Paradigm

This study research questions were generated and informed by the researcher's ontological and epistemological stance since research questions and their implementations cannot be separated from the researcher's ontological assumptions [207]. The epistemological stance is broadly established in interpretivism, also referred to as constructivism or naturalistic [209]. Petty *et al* [209] stated that interpretivism assumes that generally, understanding of the world is sought by people, as meaning or reality is not naturally present in objects or social situations, it has to be constructed or created by entities. Similarly, Bunniss and Kelly [204] stated that epistemologically, interpretivism recognises knowledge and its understanding as subjective such that there are multiple, diverse interpretations of reality and thus, no one definitive way of knowing. Furthermore, Bryman [207] stated that approaches to obtain people's subjective meaning behind their behaviours are needed because people, as research objects of social science are different from those in natural science. In other words, interpretivism recognises a difference between natural reality and social reality and hence, requires

the use of different methods in social science studies compared to natural science studies which are dominated by positivism.

2.1.1.4 Methodology

Petty *et al* [210] defined methodology as a strategy or plan of enquiry that guides a set of procedures in studying social reality. As Bunniss and Kelly [204] stated, 'methodology is most often used to refer to an applied approach to a particular issue'. Whilst methods are systematic orderly techniques taken towards data gathering and analysis to build knowledge [210].

2.1.1.5 Factors Influencing the Choice of Methodology

Methodologically, this study was primarily guided by a dearth of research-based literature to inform the area under investigation; specifically the role(s) of pharmacies and pharmacists in the management of HIV/AIDS patients in Nigeria, interpretation of the available literature and an approach to new knowledge in a natural setting.

2.1.2 Research Process

Generally, research may be categorised into two main classes, quantitative or qualitative, based on the type of research question and study to be undertaken [209]. Qualitative research can be described as a more inductive process whereas quantitative research is more deductive in nature [211]. The inductive approach is more explanatory and exploratory in nature, whereby data are collected, themes and concepts are identified and, eventually, hypotheses and theories are formulated [207]. This approach works from the specific to the more general [212], whereas the deductive approach, associated with quantitative research, is more confirmatory in nature; starting with a theme of interest, which is narrowed down to defined assumptions (hypotheses) [213].

The theme of interest is further shaped with data collection to test the hypotheses leading to confirmation or contradiction of the initial ideas [207].

2.1.2.1 Quantitative Research

Quantitative research is concerned with how many, how much, how often, and to what extent [212]. It uses direct observation and experiment to acquire data (positivist, scientific empiricism), with narrow limits of observable facts, and often omits researcher's opinions [209]. A positivist stance assumes that there exists an obvious certainty irrespective of the research development [204]. Quantitative research is mostly confirmatory and thus differences between data collected and hypothesis testing are usually investigated systematically and are subject to verification and repetition [209].

2.1.2.2 Qualitative Research

Qualitative research is any research that produces findings not arrived at by statistical procedures or other means of quantification such as survey methods, laboratory experiments and mathematical modelling [212]. Qualitative data are subject to researcher's interpretation, and are usually collected in natural settings [209]. This methodology is suited to finding the meaning people attribute to their experiences, circumstances and situations [211]. This may be through what they say and/or their behaviour [209]. Furthermore, the researcher becomes the medium through which data are collected [212]. In qualitative research, three kinds of primary data collection may be identified, namely; interviews, observations and document analysis [211].

2.1.2.2.1 Rationale for Adopting a Qualitative over Quantitative Research Methodology in this Study

The choice and decision to use a qualitative method for this research was led by a desire to explore participants' perceptions of the service offered at the hospital under

study (see section 1.6.1). This was based on the fact that the population under study have not been investigated previously, as there was a dearth of literature on service provision at the site (see section 3.4.1). The study therefore required an open, exploratory methodology. In addition, although data may be useful to others in formulating opinion, the findings were not intended to be for grand or statistical generalization. However, it does aim to achieve fuzzy generalization due to its theory seeking nature. Fuzzy generalization is a qualitative measure which says or claims that there is a possibility that what was found in one study could be found in similar situations elsewhere [214]. Furthermore, a study of this nature, which started without any preconceptions, needed to be flexible in order to generate ideas to be formed into hypotheses [212].

2.1.2.3 Types of Qualitative Approach

According to Petty *et al* [210], there are five main qualitative research approaches, which are:

1. The Biography (Narrative research);
2. Case Study;
3. Ethnography;
4. Phenomenology; *and,*
5. Grounded Theory.

2.1.2.3.1 Biography

Biography is a study of a single individual and his or her experiences [212]. The researcher investigates the life of one individual, often collecting data primarily through interviews and documents of many types e.g., diaries, family histories and letters [210]. It is particularly useful for writing comprehensive story about an individual, for example,

to develop and magnify political and powerful image of a politician over potential contenders [214]. A wide variety of information needs to be collected from and about the subject of the biography by the researcher. In addition, it is important that a clear understanding of historical and background material is known to position the subject matter within the larger trends within society or culture [214]. As Bell [214] emphasised, it needs good and thorough structure of the story, an element of analysis and development of themes for the final version.

2.1.2.3.2 Case Study

A case study is a detailed investigation of a specific individual, groups or institutions. It can also be used in specific situations, for example about decision making, planning for the future, completing process, or administrative changes [215]. To an extent, it is unstructured information, and is usually applied in political sciences, sociology, and many other social sciences [207]. The main difference between case studies and other qualitative methodologies is that the focus of attention is the individual case and not the whole population of cases [210]. A variety of data collection methods are employed in case study research which include interviews, observations, documents analysis and archival records which leads to a wider extent of data collection and may project the phenomena under study larger than in real world [210]. Denscombe [216] affirmed that the use of the case study can either be carried out as a follow up to a previous finding when it describes what is happening in a case study settings and can also precede a finding when it identifies and explains the causes of events, processes or relationships within a setting. Though Bell [214] emphasised that most case studies are carried out as free-standing studies.

2.1.2.3.3 Ethnography

Ethnography attempts to describe and interpret a social-cultural system, highly rooted in the study of human beings from cultural aspects and sociology [210]. Ethnography is useful when social conditions, attitudes, roles of people and interpersonal relationships are explored according to the set down cultural practices [211]. It is usually carried out using observations and interviews to collect data, though as Bell [214] points out, many methods such as mapping, charting, interaction analysis, historical records and documents are applied. An ethnographic study may require extended periods of time collecting data because in the research environment, an ethnographer may need to be integrated into the culture for first person observation [210]. There is no limit of what will be observed for better understanding and thus, no real ending point in an ethnographic study and the focus of the findings are more descriptive than statistical [207].

2.1.2.3.4 Phenomenology

Phenomenology is considered a philosophical perspective as well as an approach to qualitative methodology [210]. It has a long history in several social research disciplines including psychology, sociology and social work [212]. The phenomenologist wants to understand how the world appears to others and often, phenomenology has been used to describe residents lived experiences [211]. Phenomenology explores the common meaning of experience of an observable occurrence for several individuals. Thus, the researcher conducts interviews in order to describe the general experiences of several participants who witnessed the events to a central (focal) meaning of all the happenings [217]. As Petty *et al* [210] argued, to grasp and identify a phenomenon, the phenomenologist need to reduce the experiences of persons with a phenomenon to an acceptable focal descriptive idea which, can later be employed, to inform, improve, support or challenge policy and action.

2.1.2.3.5 Grounded Theory

Grounded theory (GT) begins with a research situation and the researcher's aim is usually to understand what is happening, and how participants manage their situations [208]. Sbaraini *et al* [218] acknowledged that GT has become popular in areas of sociology, nursing, education, psychology, and other social science. According to Corbin and Strauss [219], 'a grounded theory design is a systematic qualitative procedure used to generate a theory that explains at a broad conceptual level, a process, an action or interaction about a substantive topic. Rees and Monrouxe [206] defined theory as 'a set of statements or principles devised to explain a group of facts or phenomena, especially one that has been repeatedly tested or is widely accepted and can be used to make predictions about natural phenomena'.

First of all, the aim of GT is to enable researchers to generate novel realistic theories rather than testing theoretical hypotheses or developing rich descriptions of particular phenomena [218]. As Hanson *et al* [211] explained, theory generation is the ultimate goal of GT studies so that higher level of understanding that is "grounded" in or derived from a systematic analysis of data is developed, whereby, the theory emerges through a close and careful analysis of the data. This is exactly in accordance with the aim of this research, which is to explore the service provided by hospital staff, with emphasis on the pharmacy provision, for adult HIV patients attending an outpatients' clinic at MDH. Also, the literature review showed that there is a gap in the literature on roles of pharmacies and pharmacists in the management of HIV patients in Nigeria which further highlights the need for this research and hence, the appropriateness of GT approach to address this gap in the literature.

GT is founded on an iterative, inductive and deductive cycle where theory is allowed to emerge directly from data and tested against the real world [212,214,220]. As Hanson *et al* [211] stated, to create a theory that can be further tested in GT, the researcher

need to listens, observes, and be submerged in data. Data moves from the specific to the more general theory. It does not test a hypothesis. It sets out to find what theory accounts for the research situation, an action research [212]. The aim, as Glaser stated, ‘is to discover the theory implicit in the data’ [221].

2.1.2.3.6 Rationale for using Grounded Theory in this Study

Different approaches to exploring the research questions were considered, and the advantages and disadvantages of each taken into consideration. An early decision was taken that an inductive approach would be most suitable for this kind of research. This means that concepts, hypotheses and generalisations will emerge or are derived from the data, as opposed to deduction where data is collected to test a predetermined theory or hypothesis [209]. The decision to take this approach was relatively easy, as there is no prior knowledge about the contribution of pharmacy to the management of HIV patients at MDH, Abuja, and the development of hypotheses or specific theory would involve an extent of speculation. This decision naturally led the study to a more qualitative design.

Although qualitative methodologies can be used to test hypotheses, they are usually associated with the development of concepts that can assist in understanding social phenomena in natural settings, and these qualitative methodologies place emphasis on experiences, meanings and views of participants [211]. This type of approach would provide a starting point for further, perhaps more quantitative work. Indeed qualitative research can be a prerequisite of good quantitative research, especially in areas that have received little previous investigation, as it facilitates the follow up of initial findings [211].

Thus, an iterative, cyclical, GT approach to data collection will be employed in this study [210,211,221]. The practical emphasis of GT raises its predominance in the research

world, contributes to its value and thus, being one of the most popular research approaches in the world [222]. As Birks and Mills [222] argued, practice or human interaction and what is practical or pragmatic philosophy are the main concerns of GT study. These qualities of GT shape the research aim in the field and on explaining relationships between various elements of a phenomenon within a specific context. Also, these research qualities make GT so popular with studies on perceptions and interpersonal relationships [218]. Petty *et al* [210] confirmed this view by stressing the importance of the process of individual actions and interactions within perceptions in GT.

2.1.2.3.7 Hypothesis Emergence and Acceptable Data in Grounded Theory

The main difference between GT and other research methodologies is that it is explicitly emergent [218]. GT does not test a hypothesis but sets out to find what theory accounts for the research situation as it is [210]. Mills *et al* [208] argued that the explanatory power of GT reveal issues for people such that there is identification and application of theory in their own lives. GT is mostly carried out through observation, conversation (focus groups) and interview [210]. There are usually two acceptable sources for data in GT studies which are first person observations and face-to-face interviews [223].

2.1.2.3.8 Different Styles of Grounded Theory

Various authors have come up with different types of GT, for example;

1. Original version of GT by Glaser and Strauss, 1967 [224]
2. Glaserian GT [225]
3. Corbin and Strauss version of GT [219]
4. Constructivist GT by Charmaz, 2006 [226]

Glaser's approach to GT is traditional and purist, which is open-minded towards the research strategy [227]. Thus, theory building or generation is not interfered with in any way by the researchers' preconceptions, but has to evolve directly from the data. The Strauss and Corbin approach is more practical or realistic, with a more structured view towards theory building, which specifies the use of rational and guiding principles. The researcher is encouraged to mix GT with other methodologies, and to apply researcher's perspectives and prior knowledge to the topic where appropriate [219]. Charmaz has developed a modified GT, with a constructivist interpretation, which agrees more with the original concepts of Glaser and Strauss rather than those of Strauss and Corbin [221].

2.1.2.3.9 Principles of Grounded Theory

There are four essential yardsticks for GT:

1. Fit;
2. Work;
3. Relevance; *and,*
4. Modifiability.

Glaser suggested the main criteria for judging the adequacy of the emerging theory: 'that it fits the situation; and that it works, that it helps the people in the situation to make sense of their experience and to manage the situation better [224].

2.1.2.3.10 Style of Grounded Theory Applied in this Study

Since the discovery of GT by Glaser and Strauss [224], many researchers have modified and improved on it in all aspects of action research, especially that carried out in naturally setting; for example, Bryant and Charmaz [221], Clarke, 2009 [228]; Corbin & Strauss, 2008 [219], Charmaz, 2006 [226]. On exploring several of the authors in the

field, Charmaz's approach to GT was considered to be most suitable for this study [226]. Charmaz [226] bases her version on constructivist assumptions and abductive reasoning, while continuing to adhere to the structured analytical approach and constant comparison contained in earlier versions. Charmaz's [226] explanation of constructivist GT provided several additional valuable tools that this study has attempted to integrate.

2.1.2.4 Justification for Using Grounded Theory

The open-ended questions in this study are about HIV/AIDS service provision at MDH, which will allow the interviewees to express their views about living with HIV, and/or clinical services provision for HIV/AIDS patients. Also, their responses will be recorded with a voice recorder along with manual jottings (including body language) to record the interviewees' responses. Consequently, GT will allow the researcher to establish interviewees' perspectives for improving the service provision and systems, in a manner which will be meaningful and valuable to them. Also, roles of pharmacies and pharmacists in the management of HIV patients in Nigeria will be established from data collected about experiences and views of HIV patients receiving services at a HIV clinic at MDH, that is, theory will be generated from data as it relates to GT principles. The fact that GT is used to generate theory makes it the best choice to generate 'theory' as to the role of pharmacy in the management of these patients – a strong reason for using GT rather than any of the other methodologies described above.

2.1.3 Sampling

This study will use a purposive sampling technique. Purposive sampling [211], (also known as theoretical sampling in GT) [223] is a non-random sampling method used in qualitative research to strategically select a limited number of participants that have particular characteristics, so that their in-depth information will give optimal insight into

the area under investigation. Thus, the purposive sampling technique of GT makes it a valid and effective methodology in terms of theory development and establishment [218]. Rather than deciding sample size before data collection and analysis, the theoretical sampling method uses findings from initial data collection and analysis to inform further sampling and data collection [218]. It requires the researcher to collect data and analyse them simultaneously so that he or she can make the decision for further sampling and refine the theory being developed [221]. This particular process, as Mills *et al* [208] stated, sets up a clear boundary between the categories and helps researchers identify the properties of categories, relevant context, specific conditions for a particular phenomenon and subsequent outcomes. As far as this study is concerned, purposive sampling would assist and guide to identify attributes of pharmacist roles at an HIV clinic, the pharmacists views about the service they provide, the barriers associated with their roles and consequently, their expectations. Therefore, only patients and staff who have experiences about HIV/AIDS clinical service provision will be chosen for the study.

2.1.4 Data collection

The data collection techniques considered for this study included observation, focus groups and in-depth interviews [210]. It would not be appropriate to use an observational technique in this study, as the thought processes of the subjects cannot be observed [212]. Focus groups are unstructured, or semi-structured interviews, with small groups of people, who interact with each other and with the group leader [210]. This technique can produce extremely valuable data about people's experiences and opinions as the group dynamics produce a discussion whereby ideas are shared and new ideas are produced. However, there are two main disadvantages to the use of this technique in relation to this study. First, conducting focus group interviews with a busy

and understaffed profession, such as hospital pharmacists is difficult to achieve. Secondly, problems arise with the topic of discussion itself; HIV is a sensitive issue, and patients/pharmacists may not wish to express themselves in front of others. Therefore, the technique that seemed most appropriate for this study was chosen to be semi structured in-depth interviews. One to one interviews will be employed to collect data for the GT study in this research. Interview is more direct, more flexible and theoretically, able to collect more data when compared to other data collection methods such as observation and questionnaire [212].

2.1.5 Interviews

According to Kvale and Brinkmann [229], an interview is literally, an inter-change of views between two persons conversing about a theme of familiar interest - a specific kind of conversation with a purpose. Where the researcher tries to understand something from the subjects point of view and to uncover the meanings of their experiences and get to know the interviewees better [211].

2.1.5.1 Types of Qualitative Interviews

There are three main types of qualitative interviews namely:

1. Structured;
2. Semi-structured; *and,*
3. Unstructured.

2.1.5.1.1 Structured Interviews

This technique involves use of questions in a standardised manner, administering structured questionnaires and fixed responses to which the participants respond [229].

2.1.5.1.2 Semi-structured Interviews

This technique has loosely predetermined open-ended questions from the beginning [210]. However, the order of questioning and wordings can be changed depending on what the interviewer wants to pursue. It can be used if the interviewer knows the topic well [229].

2.1.5.1.3 Unstructured (In-depth) Interviews

This technique aims to develop ideas and hypothesis rather than mere collection of data and uses prompts and probes for elaboration on the focal point [212]. This type of interview has one main fundamental principal; that the participant's perception on the particular topic should unfold as the participant views it, not as the researcher views it [210]. There are a number of advantages of this technique. First, it avoids imposing the researcher's prior assumptions, such as is done when developing a structured interview schedule. The dynamic of the interview allows for discovery of the participants own meanings. These can be clarified by the interviewer during the interview and this also means that questions can be altered to fit in with the participants own understanding and meanings. Secondly, a less standardised and less rigid interview schedule ensures that questioning is appropriate to the participant and the particular interview situation. Thirdly, the interview questions are open ended and this encourages the discovery of new concepts and ideas unforeseen by the researcher. Interesting issues or ideas that may arise during an interview can then be followed up. This whole approach can then produce findings of high validity [229].

2.2 Methodological Issues

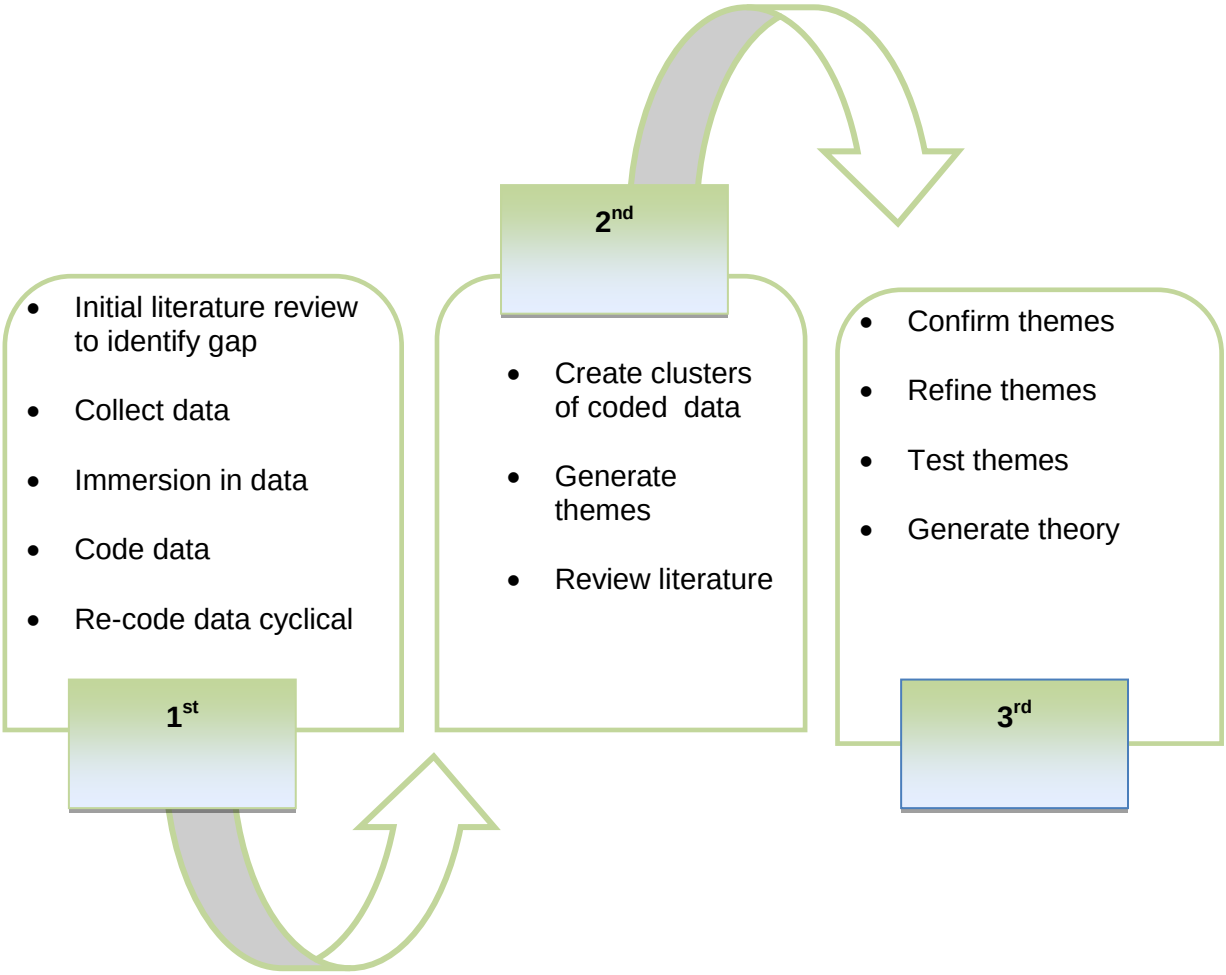
2.2.1 Data Analysis

Data analysis will be approached using thematic analysis as stated by Petty *et al* [210], thematic analysis is a commonly used analytic method in qualitative research. Also, according to Hanson *et al* [211], qualitative data analysis is considered as occurring in three passes as shown below (Figure 2.1). Thematic analysis is a rigorous and systematic means of describing and quantifying textual data [230], a method of analysis which enhance understanding of data through fracturing and refining of words into fewer concepts which eventually leads to similar focal meanings [218]. Also, Braun and Clarke [231] stated that thematic analysis, also referred to as discourse analysis and content analysis is a method for identifying, organising, describing, analysing, interpreting and reporting themes in data. It is also a means of reproducing significant deduction from data as it relates to the area of interest, with the purpose of better knowledge generation, new perceptions, depiction of facts and, ultimately, a pragmatic guide to a way forward [232]. The aim is to achieve a reduced but general description of the phenomenon, and consequentially, concepts or categories describing the phenomenon are obtained [212]. Usually, the purpose of the concepts or categories is to build up a model, conceptual system, conceptual map or categories. The researcher has a choice of using concept or category, based on the purpose of the study [214] and in this study, concept will be applied since the subject of interest is about service provision and participants' views.

According to Petty *et al* [210], thematic analysis involves the researcher reading and re-reading the interview transcripts and field notes, in order to assign preliminary codes; then reflecting on these as further interviews are conducted, transcribed and coded. As Hanson *et al* [211] stated, codes are words that act as labels for important concepts,

which emerge as data analysis progresses and are completely grounded in the original data. The researcher then attempts to identify any themes, or ideas, based on the coded interview data and field notes. For the purpose of this research, themes are the strings of commonalities that depict the obvious meaning of diverse experiences which emerged during data analysis [211]. Also, for the purpose of this research, concepts are the groups of similar ideas (themes) put together to inform the general research ideas [211]. This approach allows for flexibility and rigour in the research design, as there will be continuous coding and analysis of the data [218]. This will permit the follow up of individual themes in the subsequent interviews and data can be collected in order to strengthen previous findings until a point of data saturation is reached. Data saturation is the point at which no new knowledge or themes are achieved with more data collection [218]. It will also allow for direct comparison to previous data [233] (constant comparison method). This whole process can lead to the iterative confirmation and refinement of ideas and concepts generated by the study [211]. This approach is suited to the exploration of undeveloped areas such as roles of pharmacies and pharmacists in the management of HIV patients in Nigeria as it allows flexibility and openness to new ideas.

Figure 2.1: Qualitative Data Analysis



Source: Hanson *et al,* 2011

2.2.2 Reflexivity

In qualitative research, it is important to be aware that the researcher will have biases, interests, values, experiences and characteristics that all affect the data collected and the interpretation of the data [210]. The interviewer can both consciously and subconsciously influence respondents to act in a certain way. If the interviewee appears to hold certain values the respondent can react in a socially desirable way [215]. The fact that the researcher is a pharmacist, and this information is not concealed, will have some effect on the interviewee. This may cause the interviewee to react to questioning

in a certain manner. For example, interviewees may feel like they are being tested [215]. To deal with this effect, the researcher will make the interviewee feel at ease and will reflect on her effect on the interviewees' responses throughout the study. Conscious bias can be controlled by avoiding leading questions and phrasing questions using the interviewees own and body language [207].

2.2.3 Validity

A good way of ensuring validity is to produce an audit trail [211]. A full record of activities while carrying out the study will be kept, including a record of transcripts, field notes, details of coding and data analysis. This will reduce researcher bias and can be reflected on by both the researcher and the researcher's supervisors. As part of the overall approach to data analysis, the concepts will be continuously revised and refined until general ideas are found, and will strengthen the validity of any claims or ideas emerging from the findings [221].

2.2.4 Ethics

According to the Cambridge advanced learner's dictionary [234], ethics are moral beliefs and rules about right and wrong, and are the guidelines set down to inform researchers of their responsibility towards their subjects and their sensibilities [218]. An ethical study should address the 'Golden Question' that the researcher should not subject their subjects to any process or procedure to which they, themselves, would not wish to be subjected.

Hence, research ethics address the areas of the informed consent and confidentialities of the individuals to be interviewed, questioned or observed. Also, the questions to be asked, where and how they are to be presented during any study must all be included.

Agreements must be established about the uses of data collected and any subsequent data analysis must be agreed [214].

3. CHAPTER THREE - METHODS

3.0 Introduction

This chapter looks at the confidentiality of participants recruited, setting and ethical considerations for this study, participants included in the study, and summary of narratives of how the study was conducted. The following section describes the methods used in this study to collect, analyse, and report data.

3.1 Confidentiality

As in any ethical study, participants in this study were assured of voluntary participation, both verbally and through the participants' study leaflets (Appendix 4.2, 4.4.2), that participants could withdraw at any time and confidentiality was protected. All responses were anonymised before analysis, and special care was taken not to reveal possibly, identifying details of participants. All data will be treated as strictly confidential. To ensure this, all identifying features of the participants will be removed from the data during transcription. The study will respect all patient confidentiality, and participants will be asked not to mention patients by name. However, if any details of patients are inadvertently given by participants during interviews, they will not be included in the transcripts. The only people to have access to data are the researcher and her supervisors. All data, such as interview transcripts, voice recorder, and contact details will be stored in a locked filing cabinet and any computer files will be password protected. All data will be kept for a maximum period of 5 years after the study has been completed to allow for the writing up of relevant papers. After such time, the voice recorder and other data will be destroyed. The analysis of data will be performed by the researcher and will take place in appropriate, secure, research surroundings.

3.2 Informed Consent

Participants (patients) will be selected according to the study's sampling strategy (see section 2.1.3) at the MDH on their clinic days. Participants will then be asked for appropriate time when they will be interviewed at a place reserved by the principal researcher within the hospital on their clinic days. Once this has been attained a consent form will be given (or read and explained to the ones who cannot read) to them along with a participant information sheet. Any further questions the participants may have will be answered face to face by the principal researcher. The participant will be allowed to decide whether to take part in the study and they will be made aware that they can withdraw from the study at any time. The signed consent form will be collected immediately before the interview. Similarly, the pharmacist's participants will be recruited at ARV pharmacy unit (APU) when they are on duty or via telephone when they are out of the hospital premise. They will then be asked for the appropriate time and place within the hospital for the interview. The pharmacists will be given the participant (pharmacist) information sheet and consent form. They will also be allowed to decide whether to take part in the study and they will be made aware that they can withdraw from the study at any time. Interviews will commence only after each participant agreed to participate and the signed consent form will be collected prior to the interview.

3.3 Pilot Study

It is strongly advised that interviewers are trained in the technique of in-depth interviewing, before they go into the research field. Therefore, the researcher read books on research interviews, for example, Kvale and Brinkmann [229], Robson [212], Bell [214], and Bryman [207]. Also, the researcher conducted mock interviews with five

Nigerian students studying at the University of Wolverhampton (UoW). Analysis of mock interview transcripts was also performed at the UoW to allow the researcher to understand the process involved from transcription to thematic analysis. This process was facilitated by an external researcher, who has extensive experience with qualitative analysis. Especially valuable was the chance to experiment with the computerised qualitative analysis software package, NVivo. A course was attended by the researcher within the University on the subject of computerised qualitative data analysis.

These interviews provided the researcher with some practice of conducting interviews and also an opportunity to run through the procedures employed for transcribing and analysing qualitative data. However, the questions that were used were not the same as the actual interview questions used in Nigeria since the students were not the intended participants, though it enabled the real questions to be properly phrased as necessary. It was realised by the researcher that a clear understanding of what the interviewee wishes to be recorded, either by voice recorder or on paper should be established prior to the interview. No major changes were made to the interview schedule itself but the manner in which the interview was to be introduced was certainly modified so as to make it less formal.

3.4 Setting

The study was carried out at MDH, Abuja, Nigeria and at four NHS hospitals in the West Midlands of the UK. Abuja is a city of over 1.4 million [153] people and is divided into districts which include Asokoro, Central area, Garki, Maitama and Wuse. Maitama District is to the North of the city. Abuja was chosen for this study as its population represents all tribes in Nigeria [153] and it is one of the cities in Nigeria that has highest number of PLHA (Figure 1.6)

3.4.1 Maitama District Hospital

Maitama District Hospital (Figure 3.1) is the largest government-owned hospital in the Maitama District of Abuja. It is a 60-bedded hospital occupying a two-storey building. The ground floor contains record offices where all new patients obtain their cards, outpatients consulting rooms (adults and children), accident and emergency ward, antenatal clinic, immunisation unit, optometry, laboratory, x-ray unit, and outpatient pharmacy. Outpatient HIV/AIDS patients are attended to by staff members on the ground floor and the antiretroviral pharmacy unit (APU) is located adjacent to the main hospital building. The first floor of the hospital accommodates all in-patients, including children, adult males and females and VIP wards. Also found on the first floor are the in-patient pharmacy, surgical theatre, labour, post-natal and surgical wards. On the second floor are predominantly administrative offices and record archives.

Figure 3.1: Upper Front View Photograph of Maitama District Hospital, Abuja, Nigeria, taken on 30th July 2010

3.4.2 NHS Hospitals

For purposes of comparison, HIV/AIDS pharmacists at four NHS hospitals within the West Midlands were also interviewed; these were:

- New Cross Hospital (NCH);
- Birmingham Heartlands Hospital (BHH);
- Selly Oak Hospital (SOH); *and,*
- Walsall Manor Hospital (WMH).

3.5 Ethical Issues

Since the subject of this research had to do with patients and their sensitive behaviours, the researcher sought and received ethical approval from the appropriate authorities. These were:

- Maitama District Hospital Research Ethics Committee (Appendix 1);
- University of Wolverhampton's Behavioural Sciences Ethics Committee (BSEC); *and*
- Federal Capital Territory Health Research Ethics Committee (Appendix 3).

3.6 Sampling

This study used a purposive sampling technique, which is a non-random method of sampling; participants being chosen for their knowledge and experience of the topic. Hanson *et al* [211] defined purposive sampling as a sampling method used in qualitative research to select a limited number of participants, strategically, so that their in-depth information will give optimal insight into the issue under study. A quantitative sampling strategy, such as systematic random selection [212] was not selected as the intention of the research is not the statistical generalisability of results, but rather an exploration and description of a complex and interesting phenomenon. Since the questions for the

interviewees had to do with experiences of the HIV/AIDS service provided at MDH, patients newly diagnosed who had not previously attend the HIV/AIDS clinic were not selected for interview. Similarly, hospital pharmacists who did not attend to HIV/AIDS patients were not asked for their opinions.

Since the researcher is not a registered Pharmacist in the UK, a snowball technique was used to recruit UK pharmacists to the study; seeded from a senior contact at New Cross hospital. According to Petty *et al* [210], snowball sampling is a form of non-random sampling in which the researcher identifies an individual as an appropriate participant, then the participant is asked to identify other potential participants and there is a repeat of the procedure until sufficient data is collected.

3.7 Recruitment of Participants

3.7.1 Interviews

Patients were recruited to the study at the point where they entered the waiting area for the HIV/AIDS clinic at MDH. Potential recruits were given an introductory letter by the researcher (Appendix 4.1) together with details of the study, and of their rights to confidentiality and withdrawal from the study and a consent Form (Appendices 4.2 and 4.3). Patients who confirmed their consent to take part in the study were recruited for interview.

Pharmacists at MDH who were working in the HIV/AIDS clinic were approached directly to participate in the study. As with patients, they were provided with details of the study and asked to sign a consent Form before being interviewed.

Due to the small number of management personnel at MDH, hospital managers were approached on an individual basis to take part in the study. Consent Form and guarantees of confidentiality were given.

In the UK, pharmacists were identified by the snowballing technique described in section 3.6 and, again approached directly to participate in the study.

3.7.2 Patient Journey

Again, patients were recruited to the study at the point where they entered the waiting area for the HIV/AIDS clinic at MDH. Potential recruits were given an introductory letter by the researcher (Appendix 4.1) together with details of the study, and of their rights to confidentiality and withdrawal from the study and a Consent Form (Appendices 4.2 and 5.3). Patients who confirmed their consent to take part in the study were then observed throughout their stay at MDH.

3.8 Study Protocols

At MDH, three groups of personnel were invited to speak about their views pertinent to their perceptions of, and/or management of HIV/AIDS at the hospital. In the UK, pharmacists were invited to share their views on the management of HIV/AIDS in their hospital. The groups approached were:

- Patients attending the HIV/AIDS clinic at MDH (Phase I and Phase II);
- Pharmacists working in the HIV/AIDS clinic at MDH;
- Management personnel at the MDH; *and*
- NHS HIV pharmacists.

In all cases, individual in-depth interviews were carried out, using the appropriate prime questions (Appendices 4.4, 4.4.3, 5.2, and 5.5) and any necessary prompts, and the interviews recorded using a recorder (Sony ICD B500). Interview transcripts were prepared and analysed by a process of re-iterative thematic data analysis, and based on the principles of GT, to identify themes and concepts that could be used to

characterise the interviewees' thoughts and views. Where appropriate, interviews were continued until the interviewer perceived that data saturation had been achieved.

3.8.1 The Need for Pidgin English and Prompts concerning Faith in Phase II Interview Questions

Following analysis of the first group of patient interviews (Phase I), two factors emerged that necessitated further follow up and these are:

1. A number of restrictions to expressions were identified by the researcher, centring on patient understanding of the prime questions and the language used by both the interviewer and the interviewee.
2. The influence of a concept of "faith" which, impacted very strongly on the patient perception of HIV/AIDS service provision at MDH. Therefore, prompts with emphasise on faith were designed.

Thus, an additional set of patient interviews were undertaken (Phase II), using an enhanced approach with prompts; in an attempt to overcome any perceived barriers to effective communication. Data achieved from these Phase II interviews allowed the researcher to examine and identify any further themes derived from these patients that may have been inhibited in the Phase I study, thus giving an expanded insight into patients' views.

3.8.1.1 Patient Interviews (Phase I)

Twenty-five patient interviews were conducted in October 2009 with five patients' interviews at each meeting. Identifiable concepts began to emerge at the fifth interview, and these were subsequently explored in further interviews. Category saturation was achieved at the twentieth interview. However, in order to ensure that data saturation was complete, interviewing was continued until the twenty-fifth patient.

3.8.1.2 Patient Interviews (Phase II)

Ten patients were interviewed for the second phase of interviews and the questions had prompts, which were based on themes obtained from the Phase I patient interviews. Similar themes to those obtained from the first phase of patient interviews emerged from the second phase of patient interviews, and the interviews were terminated after ten patients due to data saturation.

3.8.1.3 Pharmacists at MDH

Ten hospital pharmacists were interviewed.

3.8.1.4 Management Personnel at MDH

Interviews were carried out with two medical record officers who were overseeing registration process for all HIV/AIDS patients at MDH. These interviews were written down since the interviewees did not want their voices to be recorded.

Finally, the Senior Medical Officer in-charge of clinical service for HIV patients at the hospital was interviewed on HIV service provision.

3.8.1.5 UK Pharmacists

Interviews were carried out with four HIV/AIDS pharmacists in the UK.

3.8.1.6 Patient Journeys

In a parallel study, patients were observed during their visit to the HIV/AIDS clinic at MDH, in order to identify a ‘Patient Journey’ that described the physical activities of patients during their visit to the hospital clinic. Patients were identified individually at the start of their hospital appointment and details of their journey through their attendance at the HIV/AIDS clinic noted in order to identify any points of potential delay.

During the second phase of data collection, ten patients were shadowed at the hospital on their appointment days to confirm how HIV patients go through their day-to-day activities at that HIV hospital. Also, patient's journeys emerged as a theme during the first phase of patients interviews. The shadowing was terminated after ten patients because the patients did not want to be followed around the hospital for their identity protection. The researcher followed each patient that was shadowed after consented to be followed from the outpatient waiting room until they were seen leaving the hospital through the main gate.

3.9 Methodological Issues

3.9.1 Reflexivity

In qualitative research, it is important to be aware that the researcher will have biases, interests, values, experiences and characteristics that all affect the data collected and the researchers interpretations of the data [207]. In order to be reflexive, the researcher endeavoured to maintain an awareness of her impact on the study. As an aid to ensuring a degree of reflexivity, the researcher kept a research diary and made field notes during all interviews.

The interviewer can both consciously and subconsciously, influence respondents to act in a certain way. If the interviewee appears to hold certain values the respondent can react in a socially desirable way [215]. The fact that the researcher is a pharmacist, and the identity was not concealed, had some effect on the interviewee. This may cause the interviewee to react to questioning in a certain manner. Interviewees may even feel like they are being tested [235]. To deal with those effects, the researcher made the interviewees feel at ease and reflected on her effect on the interviewees' responses

throughout the study. Conscious biases were controlled by avoiding leading questions and phrasing questions using the interviewees own and body languages.

3.9.2 Validity and Reliability

A good way of ensuring validity and reliability is to produce an audit track [210]. A full record of activities while carrying out the study was kept, including a record of transcripts, field notes, details of coding and data analysis. Furthermore, the audit track reduced researcher's bias and can always be reflected on by both the researcher and the researcher's supervisors. As part of the overall approach to data analysis, examples were sought throughout the study, where prior findings are disconfirmed and are contrasted with. This approach is called negative case analysis [212] and will strengthen the validity of any claims or ideas emerging from the findings.

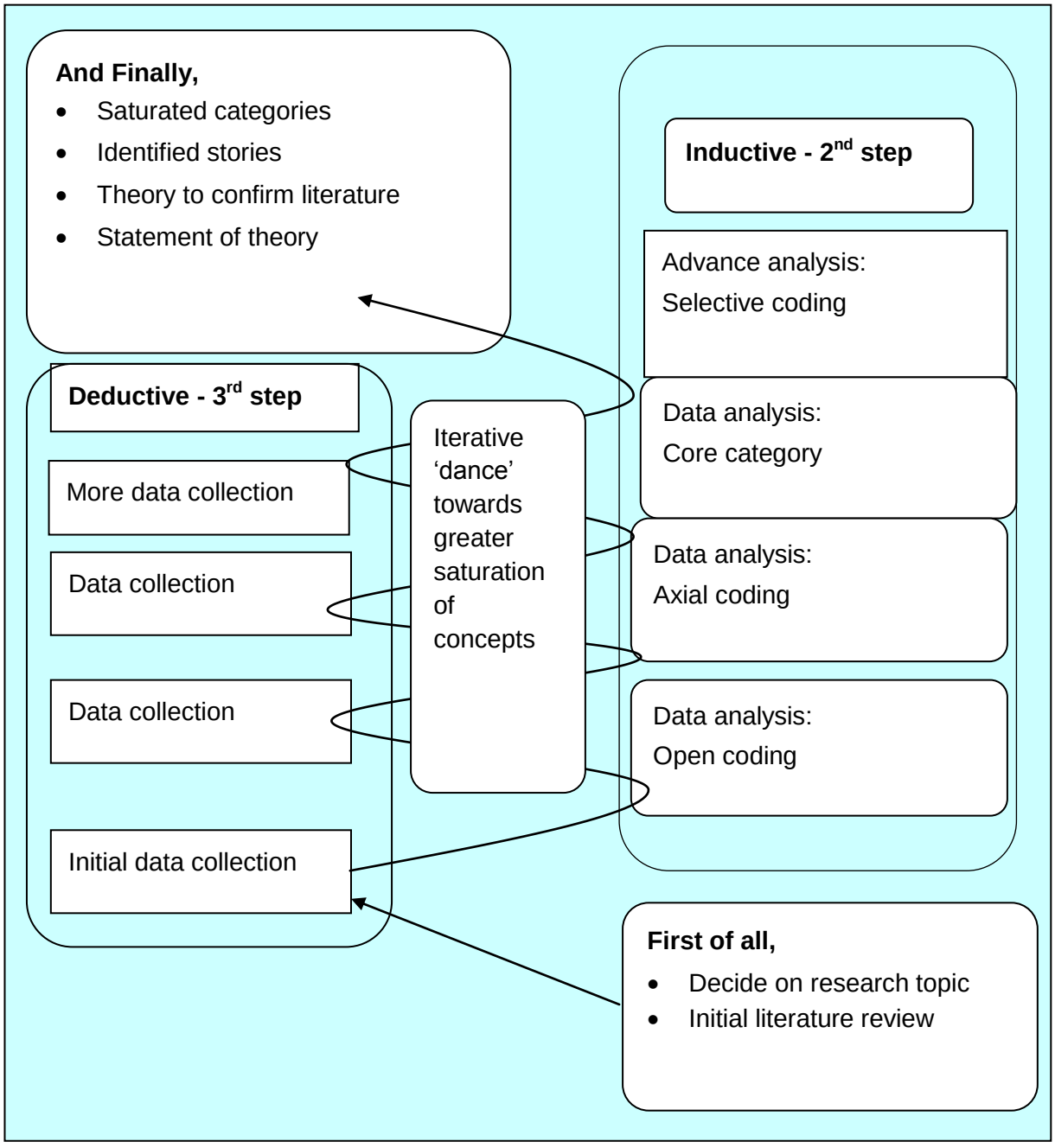
3.9.3 Limitations of this Approach

In addition to the limitations that have been previously discussed regarding the individual data collection methodologies, there is also another more general limitation of the study. Pharmacists and doctors are experts who are accustomed to having control and it seems natural that when placed in a situation such as an interview they will attempt to make sense of the research and apply their own agenda or theories of what the research is about. This behaviour is termed 'demand characteristics' [209] as the participant will often try to understand the aims and objectives of the study. That led to anxiousness on the part of the participants who often wants to confirm their beliefs of the purpose of research. This behaviour was exhibited during both interview phases.

3.10 Data Analysis

As stated in Chapter 2, a thematic analysis in line with the GT approach to data analysis of pharmacist and patient interviews was undertaken. The principle of GT data collection and analysis is shown in Figure 3.2.

Figure 3.2: Grounded Theory Data Collection and Analysis 'Dance'



Source: Warburton, 2006

Following *ad verbatim* transcription of interviews, manual data analysis was carried out by the researcher, reading and re-reading the interview transcripts and field notes in order to assign preliminary themes; then reflecting on these as further interviews were conducted, transcribed and coded. The researcher then identified themes or ideas based on the coded interview data and field notes. That approach allowed for flexibility and rigour, as there was continuous coding, and analysis of the data. That permitted the follow up of individual themes in the subsequent interviews and data was collected in order to strengthen previous findings or contrast with them. It also allowed for direct comparison to previous data (constant comparison method). That whole process led to the confirmation, refinement and rejection of ideas and the development of concepts generated by the study.

For comparative purposes, a secondary process of data analysis was carried out on the Phase II patient interviews in order to ascertain whether, or not, computer-based analysis gave differing views on the development of concepts.

3.11 Methodological Narratives

The actual activities for this study started with a request letter, which was written to MDH Ethics Committee Chairman by Professor Rae Morgan, on behalf of this research team to request for the principal researcher to carry out this research at MDH. The MDH Research committee approved the request and replied with a letter to back it up (Appendix 1). The letter of approval to carry out this research at MDH Abuja from that committee was attached to the proposal to the BSEC as a proof of approval from the primary site to carry out this research. Following an approval from the BSEC, the principal researcher went to MDH to collect data for this research.

On Tuesday 15/09/2009, at MDH, the principal researcher informed the hospital authority through a letter (Appendix 2) of her presence in the hospital for data collection

which was acknowledged. The researcher also met the hospital pharmacy chief pharmacist who introduced her to the focal pharmacist of APU, MDH. The focal pharmacist then took the researcher round the units that were directly involved with HIV/AIDS at MDH. The focal pharmacist also informed the researcher about the clinic days, which were Mondays for new patients and Wednesdays for repeat patients.

Wednesday 16/09/2009, the researcher went to the HIV/AIDS outpatients' waiting room where over 111 patients were already in attendance. The researcher recruited thirty HIV/AIDS patients, who were willing to take part in the study. A letter of invitation (Appendix 4.1) to take part in the research along with a patient participant information sheet and a consent form (Appendix 4.2 and 4.3 respectively) were given to the 30 sampled patients at the HIV outpatients waiting area of MDH. The researcher explained to those who could not read individually the overall ideas of the study. At the end of that clinic day, those approached by the researcher were able to confirm when next they will be coming back to the hospital and attend the proposed interviews.

Similarly, the researcher gave the focal pharmacist at the APU within MDH a letter of invitation (Appendix 4.1); along with a pharmacist participant information sheet and consent form (Appendix 4.4.2, and 4.3 respectively). The researcher equally talked her through the importance of the study and made it clear to her that all the pharmacists who have attended to HIV/AIDS patients were needed for interviews and probably for a focus group. The focal pharmacist then gave the researcher telephone numbers of all the pharmacists who had attended to HIV/AIDS patients at MDH. It must be stated here that it was very difficult to track more than two of this group of pharmacists down at once.

3.11.1 First Phase of Data Collections

Analysis of the patients' interviews and pharmacists' interviews were carried out, themes and concepts emerged. Then following the pattern of patients responses, we (principal researcher and her research supervisors) decided to come up with prompts for each question for the patients. That was done specifically to find out if we could get any different views on their experiences from them. We were given the go ahead from the BSEC; hence the researcher went to Nigeria in June 2010 to carry out more interviews with the patients. Also, 'patient journey' was identified from the first phase of interviews as a core category and needed to be explored further in Nigeria. Hence, ten patients were shadowed within MDH to note how much time they spent at the hospital. Also, we agreed after the analysis of data from phase one that it was necessary to have a formal chat with a hospital administrator at MDH who knows details about clinical service provision for HIV/AIDS patients.

3.11.2 Second Phase of Data Collections

The researcher went to MDH on 24th June 2010 and informed the hospital authority of the researcher's presence through a formal letter (Appendix 5.1) which was acknowledged to collect further data on the study from 28th June to 2nd August 2010. Ten patients were then interviewed for the second phase of interviews and the questions had prompts, which were based on themes obtained from the phase one patient interviews. Similar themes to the themes obtained from the first phase of patient interviews emerged from the second phase of patient interviews and the interviews had to be terminated after ten patients due to data saturation.

3.11.3 Patient's Journey Observation

During the second phase of data collection, ten patients were shadowed at the hospital on their appointment days to confirm how HIV patients go through their day to day activities at that HIV hospital. The researcher followed each patient from the outpatient waiting room until they were seen leaving the hospital through the main gate.

3.11.4 Medical Record officers' interview

Two medical record staff, who were overseeing registration process for all HIV/AIDS patients at MDH, were interviewed during the second phase of the data collection process. The record officers' interview was intended for one record officer but a second officer came into the venue of the interview and made relevant contribution.

3.11.5 Senior Medical Officer's Interview

Furthermore, the Senior Medical Officer in-charge of clinical service for HIV patients at the hospital was expected to know everything or most things about HIV patients and service for them. Hence, he was interviewed on HIV service provision.

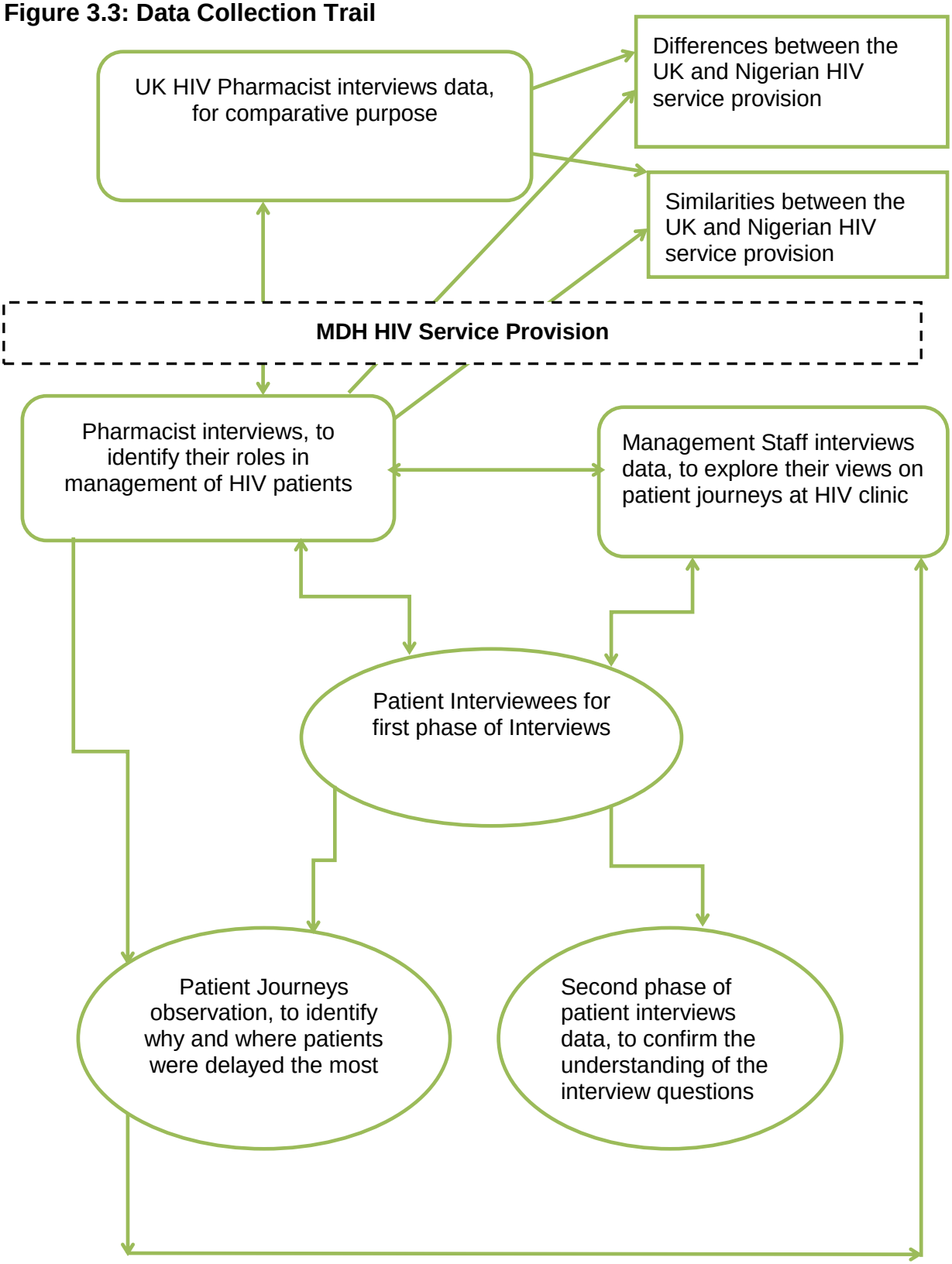
After the analysis of all data collected from Nigeria, with no new theme coming up, then there was need to take a look at service provisions that UK HIV pharmacists provide for HIV/AIDS patients. This can help bring improvement to service provision in Nigeria.

3.11.6 UK Pharmacist Interviews

Formal discussions were held with NHS clinical pharmacists specialising in HIV care at four different hospitals after data collection from Nigeria. The discussions centred on management of HIV outpatients in West Midlands and the differences between Nigeria and West Midlands management of HIV outpatients were noted.

The diagram below describes steps taken to achieve data collection for this study (Figure 3.3).

Figure 3.3: Data Collection Trail



4. CHAPTER FOUR - STUDY ANALYSIS AND RESULTS

4.0 Introduction

This chapter focuses on the research results; analysis of the data and findings, which were collected from interviewees in a hospital in Abuja, Nigeria and four NHS hospitals in the UK. Also, observations of the patient journey on HIV clinic days at MDH to receive clinical services is reported.

Each recorded interview was transcribed and each transcript was checked thoroughly against the voice recorder by reading and re-reading the text. Main ideas in every transcript were highlighted in green colour (Appendices 4.4.1, 4.4.4, 5.2.1, 5.5.1, and 5.6.1) as the transcripts were being read which later on became useful and easier to organise into themes. Interestingly, different interviewees often used the same or similar words and phrases to express the same idea and those ideas made the research issues to become clearer and shaped the themes.

Furthermore, from the transcribed text and based on the order which the questions were asked, relevant key words and statements from each interview were identified and written separately on Microsoft Excel. The words and or statements were then selected and appraised to form the themes. The process of organising and integrating narrative qualitative information according to emerging themes and concepts (ideas, concepts) was then followed [232,236]. Similar themes were then grouped together to form concepts and that helped to interpret the findings by attaching meaning and significance to the data analysis.

The findings are presented in sections reflecting the interview questions and also corresponding with the concepts that were identified from the data collected. As stated previously, this is a qualitative study and therefore the majority of data in this chapter

are presented in a qualitative manner. Hence, readability of this qualitative report is enhanced by the inclusion of verbatim quote taken directly from individual interviews [237]. Furthermore, both phases of data collected for patients are grouped together in one section and also, pharmacist interviews in Nigeria and NHS pharmacist interviews are included in another section.

Notably, after the manual analysis of all data collected, the second phase of patient interviews were also analysed with QSR-NVivo (Version 9) software [238], purposively to find out if more or different themes would emerge. NVivo, a qualitative data analysis (QDA) computer software package produced by QSR International, helps researchers to manage, shape, store, analyses and make sense of unstructured information mainly, large quantities of data as data can be coded into nodes, and it is a useful tool to link the data to emerging themes and concepts and then, develop the overall conclusion for the study [233]. However, it should be noted that Petty *et al* [210], Leech and Onwuegbuzie [233] and Hanson *et al* [211] argued that with qualitative research approach, the researcher is the main tool for data analysis, it does not replace the researcher's role in analysing and interpreting qualitative data. Furthermore, Hanson *et al* [211] have emphasised that analytical software such as NVivo, which assist in the management of qualitative data, cannot replace the researcher's appraisal and depth of understanding, though the software saves time, organises and visualises data.

4.1 Patient data

4.1.1 Phase 1 Patient Interviews

The following norms will be used in reporting the interview results: Italics are used to identify direct quotes or direct words spoken by the participant. Dots (…) indicate that the interviewee paused in the conversation during the discussion. Also, 5 minus signs (-----) indicate that the interviewee made other statements in between the statements quoted.

4.1.1.1 Demographic Data of Patient Interviewees

In the first round of interviews, twenty-five interviews were conducted; fourteen were with male patients and eleven with female patients. The age of the respondents ranged from 21 to 59 years and the time since started ARV drugs ranged from 3 months to more than 30 months. Interviewees came from major suburb areas of Abuja city and some from other states in Nigeria. The demographic details of the interviewed patients for phase one interviews is summarised in Table 4.1.

Table 4.1: Demographic Details of the Phase 1 Patient Interviewees

Interviewee serial Number	Sex, female (f) or male (m)	Age in years	Months since started ARV drugs	Religious affiliation
1	F	50	10	Christianity
2	M	37	14	Christianity
3	F	21	25	Christianity
4	F	29	10	Christianity

5	M	47	30	Christianity
6	F	29	5	Christianity
7	M	40	20	Christianity
8	M	39	5	Christianity
9	M	33	3	Christianity
10	F	36	3	Christianity
11	F	38	3	Christianity
12	M	43	18	Christianity
13	M	40	8	Christianity
14	F	32	10	Christianity
15	F	36	18	Christianity
16	M	33	11	Christianity
17	M	37	10	Christianity
18	M	36	7	Muslim
19	F	33	23	Christianity
20	F	28	23	Christianity
21	F	28	29	Christianity
22	M	36	31	Christianity
23	M	35	21	Christianity
24	M	23	27	Christianity
25	M	59	3	Christianity

4.1.2 Concepts

In this section, the findings from the analysis are presented as themes and concepts (Table 4.2). After outlining the predominant themes, five concepts emerged by grouping similar themes together, these being:

- Faith;
- Hospital Journeys;
- Social Issues;
- Obstacles; *and*
- Expectations for service provision.

Whilst every theme that emerged was important in the links to forming the concepts, only themes that emerged from at least three interviews will be backed up with direct quotes in this thesis. Direct quotes are presented in italics. Interviewees and interviewer have been labelled in shorthand. For example, patient 1 refers to first patient interviewed whilst patient 25 refers to the twenty-fifth patient interviewed.

4.1.2.1 Faith

4.1.2.1.1 Belief in God and ART

Nineteen patients asserted that faith in God made them optimistic towards HIV infection, and 13 patients clearly affirmed their belief in ART. The patients also attested to the fact that their beliefs in God and ART alleviated the pains they were passing through and helped them to cope better with HIV infection as is quoted below.

"When you have HIV you are a victim of HIV, you look miserable. You now believe that yours is finished, but today, we have hope because there is a drug that secure the life that keeps us moving ----- So I went to the Blessed Sacrament, I went and cried to my God. I told my God to give me the grace, the courage to bear the ----- To carry the cross

he has given me, because it is not my portion and can never be my portion for life." (Female, Patient 6)

"You know…I felt that all hope was gone and I was not going to survive it since I have been hearing of it. And later …it was that day that I know that there is life drug, that the person that counsels will still counsel me and after sharing the drugs and by the grace of God I will be fine." (Male, Patient 8)

4.1.2.1.2 God can cure HIV infection

Three patients confessed the belief that God can completely cure HIV infection while others wished for a permanent cure from the infection.

"Living with HIV is not a sickness in my side, is just a challenge…and the challenge that can be taken away at any time by God. So we keep on…one has to encourage himself, being a man anything that comes to you, you are equal to the tasks, God can just take it away from you anytime." (Male, Patient 13)

"I heard a story where some people said that they will continue taking the ARV until certain time when their bloods get tested; the laboratory scientists could tell them that the patients do not have the virus again. That is God's work…God is able to do anything….anything can happen. So my prayer is let this sickness be over, I am tired of the ARV (laughed) because ARV are not better things ----- Are not food but sickness makes someone to take them ----- If I want to come to the hospital, I hand over everything to God…I will say God these ARV that I'm taking…I know ARV solve this thing…I don't trust ARV…is God that I put my trust. I prayed to God…I said God these ARV that I'm taking is not my portion, God should heal me so that I will stop these ARV ----- To continue to pray for them (staff)…so that they will work more and more…to pray so that God will strengthen them so that they will not become tired -----God will strengthen them to save our lives." (Female, patient 21)

4.1.2.1.3 Happiness

Despite all risks that have been identified with HIV infection, ten interviewees affirmed that they were *happy* and had courage that they were alive with the infection since many people with HIV infection have died.

"Now that I have it, I'm happy to live with it, whatever I don't bother myself, I don't trouble myself, In fact if not em…my appointment day and when I'm to take my drugs, I hardly think about it, I just free myself as if nothing is effected at all." (Male, Patient 7)

"Seeing the day, I'm happy because it is not my own making as I'm seeing the day. If I have to tell you the truth, the agony I passed through before you are seeing me today, I'm very happy; I have to appreciate God Himself." (Male, patient 5)

"I don't joke with my drugs, I take my drugs quick quick ----- When I'm among the living? What of those who are dead, what will they say, I should be happy." (Male, Patient 13)

4.1.2.2 Patient hospital journeys

4.1.2.2.1 Delays

Thirteen patients explicitly expressed their feelings about the delays experienced during their visits to the HIV clinic, particularly, as delays impinged on their ability to go about their daily activities, e.g. work.

"Anytime I know I have appointment with the hospital, I will start having sleepless nights… let me tell you… let me be sincere. Actually, my appointment was last week, last week Wednesday. I was supposed to collect drugs that very day, by the time we finished from the doctor, when we got here; they said that they were looking for the keys to the store ----- So I was here till 2, I took permission from my boss in the office said 12, I should be in the office ----- I had to leave …let me go because of my job, without the job how will I live…they said we should eat well, feed well, take care of ourselves.

Without the job, how will I take care of myself, so I had to rush back.'' (Female, patient 15)

"*For instance, when patients come, some may be asked to come six o'clock, they may come before 6:00 am in the morning. But before these people begin to attend to them, it will be 8:00 o'clock and these are people who work in the ministry, who work in the company and they have their private businesses. If you want to be excused for two or three hours in the office, having come here by six o'clock to be back by nine o'clock, he can never meet up appointment because the hospital opens by 8 or 9 and the appointment stated there is 7 am or 6 am even."* (Male, patient 17)

4.1.2.2.2 Staff Uncaring Attitudes

Eight patients also complained about staff uncaring attitudes toward patients especially as it appeared to relate to stress experienced whilst they waited for medical services.

"Where we book our appointment,----- Is it the PMM (patients' management and monitoring) or whatever, I can't remember…, is just one small office under the stairs there, where we book for our appointment dates in the dairies. There sometimes, when you come, they sort of treat people as if we are not human beings, you know." (Male, patient 12)

"The issue is that some people (staff), you know the way some people used to do, some people at that place there, the card, the way they treat people is not fair." (Male, patient 16)

"See the staff members at the booking place; let the authority talk to them to be patient with us. Just like last year, I asked for something, that male staff just came to… insulted me that I should walk out. I just said I am an old woman and I asked him if he did not have a mother at home." (Female, patient 1)

4.1.2.2.3 Good Service

Four patients stated that the services provided by the MDH were good.

"The services they are doing fine…they are doing fine ----- Yea, they are good…they are good." (Male, patient 24)

"Yes, like I earlier said I will still give a little bit of curdles (credits) to the hospital because it is not easy…but I feel within this Abuja metropolis, I will rate them one of the best ----- because I have friends that are positive that have gone to other hospitals, from the way they complained, I felt lucky coming here ----- I even advise people to come here, people that are HIV positive to come here and receive treatment" (Male, patient 23)

"The staff here have been so cooperative, they have been so okay, to me I have not had any ….bad experience with them so far. They have been good, they have been polite, they will not even show you that you are supposed to be like… They have inspired me; they have encouraged me to stay positive." (Female, Patient 11)

4.1.2.3 Social Issues

4.1.2.3.1 Regular Attendance at the Hospital

Patients visited the hospital due to initial poor health, sickness and or side effects of ART as stated by 22 patients. All these contributed to their frequent visits to the hospital.

"The sickness just appeared like a devilish…devilish something...it surprised me ----- You know, after sometime, we started having high body temperature…frequently then my husband said we should go and carry out laboratory investigation, so we all…when I carried out my laboratory investigation, he followed me to the hospital and did his own laboratory investigation too. We were told that we have HIV and then we started

collecting ARV...for years. When I started taking the ARV, I had headache, stomach pains and general body weakness. Everything is okay now but before now, I used to experience so many things like... I could not enjoy myself… could not cook." (Female, patient 21)

"I had no problem but I started experiencing pain whenever I stepped on some sides…I felt it all over my body… just as I heard on the radio that if one is on antiretroviral…there is any side effect…the person should continue to use it…" (Female, patient 1)

"The problem I have now is that they change my drug and is very much that I'm taking now. Each time I take, I must vomit; I don't know why….and I have been on drugs for long. -----This very one has just come… the first one I'm given, there was no problem, while this very one, when I got home, I discovered it." (Male, patient 2)

"Last year when I suspected I had this sickness, I was seriously sick, I lost my weight and I went to the hospital where laboratory investigation was done. -----I was at the hospital two months back, I complained to the doctors; they asked me to go the laboratory for further investigation for that problem. I did the laboratory investigation…returned the result of the investigation to the doctors, they prescribed drugs for me, yet my stomach is still disturbing." (Female, patient 14)

4.1.2.3.2 Thoughts about Living with HIV

Eight patients expressed their thoughts about their living with HIV infection, and used words such as challenge, stress and psychological to described their perceptions.

"The issue is that Nigerians we stigmatise ourselves and that is the most difficult aspect of it as far as am concerned. We based issue of living with HIV, otherwise there is nothing about it, is just like any other ailment and I think HIV is not the worst. But once people know that you are HIV you know, because of the way they understand it, they

want to avoid you… the way they look at you as if may be you are a misfit, or you have misuse yourself. So that is the challenge as far as am concerned." (Female, patient 20)

"Is not the delay per se, but you know the stress, you come and join queues, you have to wait and then waking up, you have to come earlier. Like my appointment day, I come latest 6:00 o'clock that is if I'm not early. I leave my house 5:00 o'clock and I stay in kubwa. May be, I will come and write number 40, before you finish from that side, before you finish the vital…, and see doctor… getting to this place again. Is not easy… the whole day is gone." (Female, patient 15)

"Psychologically, you will be having one feeling that you have an issue ----- You just look onto God that can... but no how... no how, you must take the drug and I will be able to keep to time as simple ----- I know the drug is doing its own homework and God is also doing His own work you understand, live is so sweet it depends on how you handle it." (Male, patient 5)

4.1.2.3.3 Loss of Hope

Five patients stated that, following their diagnosis, there was loss of hope and an assumption that they were not going to survive with the virus because of what they had heard about HIV.

"Living with HIV…for me living with HIV is just like living…You feel isolated…at the same time ----- I felt that all hope was gone and I was not going to survive it since I have been hearing of it" (Male, patient 8)

"Actually, I felt bad… in fact I was almost crying. When I left the hospital, I went home and locked myself somewhere… felt like committing suicide. Because I was just…was just picturing….picturing a lot of people that died around, you know, when I heard what happened to them that they tested positive or they were HIV positive or they had AIDS.

So I was just picturing them and I was like God, would I happen to die young? So I felt like committing suicide." (Female, patient 15)

"I said I wanted to die… I said I wanted to die…I said it was hypertension…I got hypertension by force…it was not easy…the thing I didn't expect…I thought that it was fever, then I heard about this kind of thing ----- After the laboratory investigation and I was told that I have the HIV virus, I became like a broomstick (so slim) …I was always thinking about it such that whenever I ate or saw food, my stomach became filled up. I was always thinking… thinking and asking why…where did this thing came from…why?" (Female, patient 21)

4.1.2.3.4 Stigma/Discrimination

Five patients associated HIV infection with *discrimination* and *stigma,* in some cases directly leading to job loss.

"Once people see that you have HIV, they look at you as a condemned human being already; sometimes they won't want to share food with you, all these things. We face a lot of challenges several times ----- I find it a little bit difficult when I lost my job, thank God I have got a job which I will start this October, even though it is not my normal job but it is better. Because if you go to any offices now, they will say go to HIV test and this and that." (Male, patient 2)

"Living with em…living with HIV viruses is not an easiest ways… no… why because you get frustrated errrh…you find people running away from you. The stigmatisation is still there even the government effort of trying to reduce it. Errrh…presently like me now, I'm jobless due to my…the…em status of HIV, so it's not been easy, is not been easy at all." (Male, patient 23)

"The discrimination that comes with it, if not because of that I don't think there is anything ----- May be these people that…may be some people they don't know you …or they discover that you are positive,… that is it." (Male, patient 9)

4.1.2.3.5 Support from Family

Five interviewees spoke about the support, both morally and materially received from their family after their diagnosis.

"But we thank God we are among the living ----- I felt bad and I felt …errr…life was of no use to me. ----- Thank God I have a sister who stood by me all the while who played a motherly role to me and em…through her encouragement and everything I'm still living." (Male, patient 23)

"Like now, I'm staying with one of my cousin after Apo…Apo village, Apo So I find it… sometimes I find it difficult to make it, but I believe God, I say God like this morning I was saying God how can I…today is the time I want to come and refill my this thing, thank God I have somebody that gave me money and I have to transport myself so that is." (Male, Patient 16)

4.1.2.3.6 Awareness of HIV

Four patients with prior HIV awareness stated that they had good knowledge of HIV, from listening to HIV programmes on the radio, television and attending workshops.

"I listen to the radio and television, I don't miss it. I participate in many workshops on HIV without knowing that I'm a victim. So that have broaden my live, when the news got to me, it didn't border me and I take it as part of live. That is me oooh, I don't know of others." (Male, patient 5)

"Yes… yes prior to that time I had the awareness, from my sister and from … you know, news, books, I read a lot about it, I browse the internet about it, so it wasn't really a shock." (Female, Patient 20)

4.1.2.4 Obstacles

4.1.2.4.1 Many Patients/Few Staff

Most patients identified issues relating to patients overcrowding with few staff; twelve patients acknowledged that the number of patients and few staff contributed to delays.

"What I have seen is that the load is too…much for this pharmacy, every day we will be seeing 100 plus, 200….at least us we are in that side we can be attending that side that Bwari general hospital instead of this place." (Female, patient 3)

"The…the problem we have there is that the population is increasing everyday with the…. HIV positive people. So if you don't leave your house in time there is every tendency you miss even by 6 o'clock you will still be in hospital." (Male, patient 22)

"Like me, I was here by 6 am ----- The staffs they are working and they are cooperating with us, but I think is the population ----- Sometimes we come; you know like we are 160 and then, the doctors on seat is just two. So, you could imagine two people answering 160." (Male, patient 9)

4.1.2.4.2 ART Shortage/Rationing

There were concerns about incomplete dispensing of prescribed ARV drugs or ART shortage by three patients which constituted barriers to HIV service provision.

"My drugs, sometimes the only problem I have here is that when… you may be asked to be given three months, may be, they will give you one month ----- I started with two weeks, after the two weeks, one month, at two months I was given drugs but now the

rate of the number they give is reducing. I don't know whether is the population. I will not accuse them that it is their own fault, it may be the fault from the supply or is the population that murder the demand." (Male, patient 13)

"When they send us to pharmacy to come and collect drugs, may be, they tell you that the drugs are insufficient but pharmacy will tell you to come and collect the remaining ones. I will come and collect. Like myself I was given drugs but not complete for the last three months, and they ask me to come before my appointment to come and collect." (Male, patient 2)

4.1.2.4.3 Patient Attitude/Favouritism

Impatience amongst patients and preferential treatment being offered to some patients were identified by four patients that affected service provision.

"The problem is even with us the patients because we are not patient with ourselves and we don't listen to the doctors when they ask us to do a particular thing, to do this…we know what we are supposed to do when we come but we won't do it, so most a times we even behave like kids." (Female, patient 20)

"A times people feel that they are treating them with partiality, you know may be along the way, files will be mixed up unknowingly. You will see people vibrating, but when they discover that, those in charge will try to maintain it and listen to people and see where they can correct so that they will be peace." (Female, patient 19)

4.1.2.5 Expectations for Service Provision

4.1.2.5.1 Employ More Staff

The patients' suggestions for improvement included employment of more staff to help reduce the number of patients in attendance on clinic days as stated by seven patients.

"If they have the capacity at least, we will appreciate it ----- Eehm...More doctors …more doctors….more doctors, sometimes we come, you know like we are 160 and then, the doctors on seat is just two. So, you could imagine two people answering 160, so before they finish….so we were here that day before we left that day were 56 something ….before we left here that day it should be around four o'clock…getting to four o'clock." (Male, patient 9)

"Me personally, naturally I don't like hospital I cannot say hospital is good. Here is good… here is good, but something must bring you to a place. And for me I'm satisfied with what is given to me ----- May be, you should increase the number of doctors coming because a times like on Wednesdays, the patients are many and a times we have only two doctors working and everybody is waiting, and it takes time." (Female, patient 11)

"We need more resources to be frankly speaking, more staff, adequate…more Staff, I… mean. Because sometimes we come to the hospital; we found that we are over 300 and, may be, three doctors attending to…" (Male, patient 23)

4.1.2.5.2 Medicine Supply

Six patients suggested that the provision of an adequate supply of ARV drugs would be a major step towards improving services.

"The equipment like those drugs now, it just have to be enough. Like before when we come, they do give us drugs that took us for may be, two or three months. But like last time when we came, they said there was shortage of drugs somehow…they have to give us for one one month. But there is no time (stressed it) we come, they say no... no drugs, they only say, instead of giving us three months, they will give us one... one month because there is no enough drugs, so that the drug will go round" (Male, patient 22)

"So, I am praying that Mr President should give attention to Maitama District Hospital so that there will not be medicines out of stock, increase salary, and care for the hospital staff. If the President does not do like that, I will not be happy...I will not be happy because medicine is very important in this World. May God help us." (Male, patient 18)

4.1.2.5.3 Provide Adequate Accommodation

Improvements to hospital facilities were suggested by three patients.

"At the reception where we wait for the doctors, I think that place is really...whenever the crowd is much. The place is em…choked up, as we come so many things associated with other illnesses such as cough, you know everybody is coughing and the place…there is no ventilation, personally when I come, I stay outside… until I know shortly they will call my name. So that place needs to be taken care of. If they can… may be extend the place… know what to do about it, is really awful. Some will be standing, some will be coughing, some will be sneezing and is not good for us."
(Female, patient 20)

"Umm…well the accommodation, where they receive patients is not enough. A times, we will be so crowded in that place and you see people hanging outside because they can't be in. I think that is the one thing, if there is any improvement to be made."
(Female, patient 19)

Table 4.2: Themes and Concepts for Phase 1 Patient Interviews

Concepts	Contributing Themes
Faith	Faith in God (17), faith in antiretroviral (ARV) (13), optimism (1), pray for staff (1), happy (8), unhappy (1), gratitude to God (1), Holy Grail (3), courage (2),
Social issues	Poor health (13), sickness (5), discrimination (3), stigma (2), challenge (4), psychological issue (1), awareness of HIV (4), loss of hope (5), disclosure issues (2), loss of source of income or jobs (5), support from family (5), counsel (1), poverty (1),
Patients' hospital journey	Delays (13), uncaring staff (8), stress (3), stressful CD4 cells count unit (2), laboratory investigation (5), good service (3), serving well (1), encouraging staff (1), orderliness in pharmacy (2), doctor's counselling (1),
Obstacles	ARV drugs ration/shortage (3), side effects of ARV drugs (4), unscheduled visit (2), work (5), few staff (3), many patients (9), preferential treatment (4), doctor's attitude (1), patients' impatience (4) ARV drugs constantly (1)
Expectations	Sufficient availability of ARV drugs (6), trim down visits to hospital (1), service closer to patients (1), improved accommodation for patients (3), more hospital staff (7), more volunteers (1), appeal to Nigerian president for HIV support (1), increase wages for staff (1), amendments at card room (2), HIV pharmacy needs amendment (1)

4.2 Phase 2 Data Collection

4.2.1 Rationale for further Data Collection at MDH

The necessity for a supplementary phase of data collection from patients (Phase 2) was conceived out of the concepts that emerged from the analysis of the first phase of data collection. ‘Patient journey’ emerged as a concept from analysis of phase one interviews and there was a perception that the use of Standard English could have limited the findings on patient experiences during the phase one interviews. Consequently, the questions were re-formulated in Pidgin English.

Firstly, it was decided to have a closer look at the ‘journey’ patients undertook on clinic days to identify possible causes of delay and to help with data triangulation (Section 4.3.5. the Patient Journey). A decision was taken to interview more patients with the same semi-structured questions but with more specific prompts, which were formulated based on patient responses during the first phase of data collection (Appendix 5.2). Furthermore, it was decided that management staff needed to be interviewed to find out their perception of the clinical service provided to HIV/AIDS patients at MDH.

4.2.2 Phase 2 Patient Interviews

Ten further patients were interviewed, six men and four women.

4.2.2.1 Demographic Data of Second Phase Patient Interviewees

The age of the interviewees ranged from 21 to 56 years, and the time since starting ARV drugs ranged from 3 to more than 36 months. Interviewees came from major suburb areas of Abuja city and some from other states in Nigeria. The demographic details of the interviewed patients for phase two interviews is summarised in Table 4.3.

Table 4.3: Demographic Details of the Phase 2 Patient Interviewees

Interviewee serial Number	Sex, female (f) or male (m)	Age in years	Months since started ARV drugs	Religious affiliation
26	M	52	14	Christianity
27	M	37	10	Christianity
28	M	41	16	Christianity
29	F	22	36	Christianity
30	F	26	24	Muslim
31	F	25	13	Christianity
32	F	21	3	Christianity
33	M	30	13	Christianity
34	M	56	23	Muslim
35	M	42	25	Christianity

4.2.3 Concepts

In this patient result section, the findings from the analysis will be presented in concepts (Table 4.4). After determining the predominant themes, the same five concepts as seen in phase one patient interviews emerged, these being:

- Faith;
- Hospital Journeys;
- Social Issues;
- Obstacles; *and*
- Expectations for service provision.

Data is reported in the same manner as phase one patient interviews. It is worth noting that during the NVivo data analysis, it became clearer that themes which make up the five concepts do overlap all through, particularly, themes that made up Social Issues and Obstacles. However, the themes which overlapped are reported in one concept.

4.2.3.1 Faith

4.2.3.1.1 Belief in God and ART

Like the first phase of patient interviews, every (all ten) patient in the second phase of interviews spoke about faith in God and ART which helped him or her to cope better with living with the infection.

"This medicines before aaha…before I will took it, I do pray before taking the drug… may God help me to get healing because doctors do treat the body but God is err…healer, that is how I always said before I took the drugs. ----- I believe that it will work and is working ----- I always pray for them even the doctors that may God give them more knowledge so that one day they got…got the medicines to cure this infection." (Male, patient 33)

"That is why I tell you that wherever...anywhere you find yourself, thank God. According to Muslims, they say God gave gifts and God take ----- Who are we to challenge Him? Nobody can, which court do you want to take Him (God) to, He knows the place? That is what I'm telling you. Some people have cancer, you see it na, you see cancer with big man ----- I believe it is one thing that will take one's life back to Him, whether by headache ...whether by cough, it is one death will take all of us back to Him, that is my own believe. I know it is my cross, I cannot blame anybody and I won't blame my God." (Male, patient 34)

Also, six of them said that God can completely heal them of the infection and so, hoped for a complete cure from HIV.

"In any situation like that as I said, give God the Glory because He is the Alpha and the Omega….He is the creator of everything. He can say today HIV wipe away from the surface of the earth, it will definitely go ----- I pray to my God in the morning….in the evening, even in taking ordinary water, I say thank you for giving me that water. Then I don't think I play with my God. My God is always a living and a creative God …He provides me with all my needs ----- I said no, my world will never end, it is just a challenge, I will take it, anytime God decides to take it away from me and I believe it will all go back." (Male, patient 28)

"The drugs…in fact, I have seen improvement in my body seriously like em ….even I have come to believe that one day I will come for test where the virus will not be…. I am thinking that one day I will come for test where the virus will not be found again." (Male, patient 27)

4.2.3.2 Patient Hospital Journey

4.2.3.2.1 Caring Staff

Every patient interviewed at this second phase, through similar or related wordings, said that most staff who attended to them behaved nicely to them.

"They (staff) are nice; I can say they are nice; they are good to me…because the other woman (a staff) that was here before that was sometimes harsh; other people are not like her. I think she is no more here again, I don't normally see her again. But as for these ones I see…both the doctors I see, they are nice -----There is nothing I don't like about them." (Female, patient 29)

"They (staff) are doing well…they are doing well ----- Well… (Looked at the ground and lowered her voice)…the only thing I want to say is that if you talk to them gently you understand, even if you are late, they will help you…you understand." (Female, patient 31)

"Well, they (staff) are really trying in this hospital….they are trying very well in this hospital. Like some of the supporters, they give attentions to we*…..to we that live with virus. May be if you have any complaints, you go to them, some of them they take their time to listen to you to share your pains and to share your feelings with you. They don't discriminate and they are… not partial."* (Female, patient 32)

4.2.3.2.2 Good service

Eight of the patients acknowledged that the service provided was *good*.

"The doctor himself will always advise me that those drugs are very good….they always encourage me so there is no fear, I have confidence….I always have confidence ----- The service is okay ----- Everything is okay ----- I like them because they keep encouraging….they receive us and encourage us." (Male, patient 27)

"I don't have any fears because our doctors are treating us well….entertaining us and give us a good advice so I don't have any other fear -----They are giving us a good treatment, very nice treatments ----- In fact there is nothing wrong about them to me, in fact I don't know of others. If I ask them something, they will tell me how I will understand, they will teach me to do this or not to do that so I'm enjoying the way they are treating at me." (Female, patient 30)

Seven of the patients also appreciated how staff educated them generally, on HIV.

"As for now…before we start the drug they (staff) told us this is not for cure, it is to help you to build your immune system, to bring out… to make you…I didn't remember it again. For my own understanding, is just to build you up, is not going to cure the sickness or the virus in you." (Female, patient 29)

"I don't have any fears oooh (tapped his lips) once they have already told us the guidelines ...and once you follow those tips; there will be no problem... you live your normal life." (Male, patient 26)

4.2.3.2.3 Uncaring Staff

On the contrary, five patients particularly, through similar or related wordings stated that some staff were uncaring.

"Some of their staff are hot tempered and aggressive… sometimes. I don't know if it is due to the kind of crowd they see or the stress ----- Well, the only thing I can point at that I don't like about them is that sometimes…some of the nurses' sha…like some of us that are new in the environment. May be, we come for like check our BP and weight like that, if they are weighing us and all that….a times they talk to you any how and may be, sometimes, they start frowning for… anyhow, that is just something that I don't like about them." (Female, patient 32)

“Like some people (staff) if you want to ask, if it is some questions you want to ask them, the way they will even put it to you...to even talk anything, is not there for you...will they even allow you talk?” (Male, patient 34)

4.2.3.2.4 Delays

Delays and spending long days when attending clinic were frequently experienced, with three patients stating they arrived at the hospital the night preceding their appointments to try and mitigate delays.

“I will leave home as early as 4:00 in the morning and before I reach here, it will be around to 5 or 4:30 and as then I will be like number fifty something or sixty something. And it will end up may be, me staying until...there was a time I leave this hospital around 6:00 pm ----- I didn’t find it funny…sometimes I might cook my food very early, though I know they are trying but is just like leaving my house as that early and going back as that late, sometimes I said I don’t know why?” (Female, patient 29)

“Some people, (patients) they do not get time to stay in the hospital for long you understand…want to see doctor early and go back to work…some leave far…very far away, so sleep in the hospital you understand.” (Female, patient 31)

“Then from there...you see some people very annoying here. Somebody you are number 2 or number 3, then you see number 10 coming to...the...err... this pharmacy to collect medicines before you …because we don’t want to late, some people we come early...we book our names since last night so that…to enable us go early. You see somebody who come here in the morning...go before you, what is the essence of err...coming early?” (Male, patient 34)

4.2.3.3 Social Issues

4.2.3.3.1 Support from Family Members

Three patients acknowledged that patients who had support and encouragement from family members after their diagnosis fared better with the treatment.

"I'm still with my elder sister. So when I came to the hospital, I did the test, I was the only one. Then I found out we are living together, if I did not tell her, definitely when I start these drugs, she will definitely know what these drugs are for. And I feel that if anything should happen to me, if I'm having malaria…I wouldn't stand…because then she (sister) was working in the pharmacy; I always tell her ahah…I'm having this, she brought drugs for me. So I called her and said see oooh, I want to be stronger and I want you to help me because is just like if you don't help me, no other person can help me. I went to the hospital and this is what they said, I am positive. Then she really really encouraged me, she said well, she works in pharmacy and amount of the people that buy those drugs… is that HIV is something that will not kill. So I should carry on with my life and just what she wants me to know is to be close to God. She really advised then that is why I think I should let her know." (Female, patient 29)

4.2.3.3.2 Regular Attendance at Clinic

Due to initial poor health or sickness, patients regularly visited the clinic according to nine patients.

"You know, it is fever which first come, I now go to the doctor. You see, when I first notice the thing, every week, constant problem...fever...fever...fever everything fever ----The doctor now come say I should do test at heart to heart place. Now I said doctor, is it this thing that caused my fever everytime? He said yes, if I do it, then I start using the medicine and I will see the improvement. Truly, and as he said true, since when I

started using the medicines...I do before almost a month I do not see anything now, three...four months ----- but I don't see the fever too much. But I still said it is dreadful for us....both my wife and one of my daughters carry it.-----If some people see me now -----They said aah...your body is all coming -----There was a certain time, If you see me even my trouser then... I cannot wear them now." (Male, patient 34)

"Actually since I have started taking my drugs, I'm now getting better more than before and I don't used to do small small sickness like before because before I have never started taking my drugs, I used to found myself with small headache, stomach pains all over the body. But now that I have started taking my drugs, it take me a long time before I sick. And even though I sick, may be, is the problem of stress and when I sleep, I will find myself better." (Female, patient 30)

4.2.3.3.3 Thoughts about Living with HIV

Eight patients described living with HIV through similar or related wordings as *traumatic* and a *challenge*.

"Is very traumatic...hardly would a day go without at a point you feeling ...feeling so sorry why me? So the trauma is always there, even when you try to buckle up and say life goes on, but deep within you, err...is still there, you still feel it." (Male, patient 35)

"My mum being a very local woman, she keep on encouraging me that I should not just bear it, that it is never a dead thing. She told me it is never a dead thing. My younger sister told me again that HIV is nothing that I should not take it and start thinking as if my world is end. I said no, my world will never end, it is just a challenge. ----- HIV infection as I have seen it, is as I earlier told you that is a challenge." (Male, patient 28)

4.2.3.3.4 Death Sentence/Loss of Hope

There was also loss of hope amongst patients following their diagnosis as stated by three patients, and HIV infection was viewed as a deadly disease.

"I was just looking at myself when I found out I am positive, I was really thinking that am I going to die. Then, I was like when did I start life, then after everything now, I found out that let me just be close to God and do so many things." (Female, patient 29)

"It was like, if you were positive, you will just be waiting for when to die. So even the people who were to come and collect drugs, there was really no need...really no need (laughed) for...preparing a very good place for them (laughed) after all, they will soon die (laughed). May be there is an understanding that they are not dying yet, so let us provide them something." (Male, patient 35)

4.2.3.3.5 Stigma/Discrimination

Every patient interviewed in this phase employed word such as *stigma*, enmity, scandal, *rumours*, *discrimination* and hatred as responsible for their not *disclosing* their HIV status to other people.

"*At times…you know, most people they are still ignorant of it -----Yes, because…the reason why I have a fear of people knowing is that…you know in Nigeria here, like if people know you are HIV positive, they will just be carrying the rumour about it. Broadcasting it… pointing fingers at you. May be like in school now, friends you have been …they have been hanging around with you, they will start running away from you because they are ignorant of it that is the fear of not telling anybody."* (Female, patient 32)

"Naturally of course you know that…there is a stigma attached to HIV whether you like it or not. And so err… there are certain things…they are some people that relate with you

freely, the moment they know err…that this man is positive, they might feel whether you have infected that because you are affected, so you just stay." (Male, patient 35)

"Since I was tested, I did not disclose it to anybody especially my family members and friends apart from people I only met in the hospital here, I did not tell anybody, I keep it to myself. -----You know this kind of thing, I keep it to myself because when you tell people you do spread the news, due to explaining of the news, you will feel somehow. You will feel something…rejecting you…discrimination. So this thing, it do cause somebody to really get heart attack, thinking people are saying that you are like this and that. So I decided to keep it to myself so that I will make my life keep on going and everything will go on normal with me." (Male, patient 33)

4.2.3.4 Obstacles

4.2.3.4.1 Many Patients

Seven patients spoke about how many patients were at the clinic.

"The service is okay. Is only that the… numbers of em…sometimes…the number of patients are…we are many. So, we have to be patient with the service providers and are being happy for them ----- Well, I can say actually we have many patients, but the staffs have been trying their best according to the number of patients they have." (Male, patient 27)

"Umm like…well may be doctors and the pharmacy, they are trying their best for us because we are more than 100 patients and they are attending us, so they are trying their best." (Female, patient 30)

"Sometimes if you come, if people too much like Monday you understand, they will tell you if you have your drugs, you should go and come back, you understand. If people too much... like last time I come, people too much, they said if you have your drugs that

can take you till that day …can sustain you to that Monday, that you can come." (Female, patient 31)

4.2.3.4.2 ART Ration/Septrin® Out of Stock

Most patients experienced medicine shortages at one point or the other, mainly in form of the ART being rationed which increased their visits to the clinic.

"Apart from Septrin®, sometimes I do come here if they don't have certain drugs; they tell me I should get it outside. Like these my drugs they have never had it before. I have never fell sick that they wrote another drug like that…since I started the drug I have been fine." (Female, patient 29)

"In some hospitals, they said like Septrin® they normally have it every day and they said you must use two Septrin® a day... but here na, if you ask them, they will tell you they don't have." (Male, patient 26)

4.2.3.4.3 Inadequate Accommodation

Patients spoke about the inadequate accommodation, for example, seating arrangements whilst patients waited to be attended, which was a source of concern for four patients.

"The canopy you place outside…before anytime we come, we are at DOTs (Directly Observed Therapy for the Treatment of Tuberculosis) section, they call us, and we line up under the sun ----- What we need now is seats; they should help us with seats so that embarrassment from DOTs side should not come to us anymore. This morning we pick seats from there to sit here, again they drove us off." (Male, patient 28)

"Like before...before we come, when we reached here for drugs, there was no place to stay and collect the drugs...no place to stay and wait." (Male, patient 35)

4.2.3.4.4 Patient Attitude

Five of them spoke about annoying and impatient patients on clinic days, and insinuated that the patient problems at the hospital were caused by patients' attitude.

"I stayed here sixteen days with my wife, I have never seen anyone (staff) in this hospital… I have never seen any embarrassment in the ward. Nobody embarrassed me any time we come, except to me, the patients because you cannot say all human beings do behave the way you want to behave you know. Some con man, start playing the kind of a game of come last, go quick. That is always the problem we always have within ourselves." (Male, patient 28)

4.2.3.5 Expectations

4.2.3.5.1 Medicine Supply

Four patients wished there would be adequate ART, Septrin® and other medicines, where ARV drugs should be formulated as once weekly or monthly doses and medicines that will last until next clinic appointment to help reduce patient visits to the clinic.

"The only improvement …what I always pray for, may be the drugs could be improved in a way that may be, you can take once in a week or once in a month or something like that…so that we can avoid too much of people coming every day for drugs." (Male, patient 27)

"If they can get all the necessary …like all this Septrin® …most of the people when used to complain that they don't give them all the. Like on Wednesday now you know they will say …like this supporting group, you will hear a lot of things say come ooh... they no dey give us Septrin® again …make them dey provide am regularly." (Male, patient 26)

"Like when I have appointment in the hospital, they have to give us err…long time drugs that will take us to take our lectures." (Female, patient 30)

4.2.3.5.2 Increase Clinic Days

Also, three interviewees wanted the present once weekly clinic, be increased to two or more.

"Is just only two days now, old patients have only one day and new patients only have one day----- if they can increase the day…improve the days, if they can add more, either to make it three days or two days more." (Female, patient 29)

"Like me, I'm a student, so, a times I used to get lectures, lessons, exams. Like when I have appointment in the hospital, they have to give us err…long time drugs that will take us to take our lectures and. You know, like now I have to collect my drugs…I'm here since 4:00 yesterday, I come for a booking, I now left for home…I came today morning." (Female, patient 30)

4.2.3.5.3 Employ More Hospital Staff

Despite the fact that all patients at one point or other did speak about inadequate staffing, only two suggested for more staff employment to reduce long stays at the clinic.

"Just staffing (raised his voice) because there are some times err…when we come, is like the staff are not enough, so they are stressed…err…it is because they are not enough that is why people pile up, it is when people pile up, they will be complaints when they are plenty. But if the staffs…the number of staff are increased, of course the waiting time will be reduced ----- There are delays but it still boils down I feel to hands…number of hands, if number of hands are enough, the crowd that waits here will not be there." (Male, patient 35)

"Improvement...eherr...you know the only thing...coming here...if it is three people that have been giving...attending to people here, may be they should them make it five because some of us err...as I tell you...some of us leave office err...without allowing them to know that this is what you come for. This thing has caused some people their job, you understand." (Male, patient 34)

4.2.3.5.4 Improve Accommodation for Patients

Furthermore, three patients wanted better facilities.

"At least their (HIV patients) own thing should be done different, and they should keep them at a different department. They are not supposed to be at the entrance there, at the reception area there ----- Like you know, some people are shy…people that are coming for the… treatment and when they see somebody, they will first start...they will be looking for a way to hide themselves and all that. Is better they could remove them from that reception any way." (Female, patient 32)

Table 4.4: Themes and Concepts for Phase 2 Patient Interviews

Concepts	Themes
Faith	Faith in God, faith in ART, God can cure HIV infection, permanent cure for HIV, live positive, be cheerful, Pray for staff
Social issues	Support, encouragement from family members, poverty, Disappointment in relationship due to HIV status, Disclosure issues or did not disclose HIV status to anyone, HIV could be punishment from God, HIV does not show on faces, HIV was like a death sentence, loss of hope, Ignorance, Sickness, poor health, side effects, Stigma, enmity, scandal, rumours, discrimination, hatred, This thing, Traumatic, stressful, dreadful, miserable, challenging, frustrating, depressing, Valuable job time loss, Job loss
Patient journeys	Delays, HCPs education of patients on HIV, HIV service provision was okay & orderly, Impatient, hasty & annoying patient Night arrival at MDH, Staff resumed late for work, Staff were helpful, nice, good service, encouraging, trying their best, advising, attentive, unbiased, joyful & excited, Uncaring, biased, hot tempered, aggressive, spiteful & unapproachable staff, Appreciation of volunteers for HIV service provision
Obstacles	Out of stock ART, Septrin® & other medicines, ART ration, Inadequate accommodation & seats for patients, Many patients & few staff, Negative effects of Nigerian government corruption on HIV service provision, not fully adherent to ART,
Expectations	Employ more staff, provide adequate accommodation, seats for patients, Provide adequate ART, Septrin® and other medicines, Make available once daily, weekly, monthly ART doses, Reduce patient visits to hospital, increase clinic days, Re-organisation is needed at MRU

4.3 Patient's Journey

Following initial analysis of the patient data obtained during phase one of this study, it was identified that the actual time-based experiences of patients may have had a bearing on the patient experience at MDH. The determination of 'Patient Journeys' reflect the patients' experience during their visit to MDH from the time they arrived at the hospital until they finished receiving clinical services and left the hospital. Ten patients were shadowed (Table 4.5).

Table 4.5: Demographic Data of Shadowed Patients

Shadowed patient serial Number	Sex, female (f) or male (m)	Age in years	Months since started ARV drugs
1	F	34	36
2	F	29	12
3	F	44	8
4	M	32	10
5	M	37	7
6	F	39	24
7	M	52	35
8	F	25	4
9	M	40	9
10	F	58	22

4.3.1 General Observations of Patient Journeys

4.3.1.1 Medical Records Unit (HIV/AIDS Section)

On appointment day (or the previous evening), patients arrived and assembled at the HIV/AIDS outpatients reception and each patient wrote (those who could not write,

asked for assistance from others) each patient's name individually into the attendance register along serial numbers already on the register. At about 07:00, staff from the medical records office, removed the first page of the register and arrange those patients' folders (medical records) in the order entered onto the register. Then, at about 08:00, medical record staff began to distribute individual patient's folders based on the serial numbers in the day's attendance register. However, at times, some patients did not receive their folders (normally, because the folders were misplaced or the patients were not scheduled for that clinic date). Unannounced patients did put their names on the attendance register; however, they could be attended to or turned away based on their reasons to be in attendance that clinic day. Subsequently, the second, third, fourth, and so on, pages were removed and same procedure repeated until the staff reached all patients (added extra scope for unannounced patients) who were expected for that day.

4.3.1.2 Vital Signs Measurement Unit

At about 09:00, each patient was called for vital signs (body weight, body temperature and blood pressure) measurement according to their serial numbers on the attendance register. Nurses from the heart to heart unit (which oversees pre- and post HIV testing counselling) measure the patients' vital signs. The measured vital signs were recorded in each folder. Each folder was then collected from the patient whilst the patient moved to the waiting area to consult a doctor. The patients' folders were collected by staff from the medical record's unit (or volunteers) and taken to the doctor's consulting rooms in bulk (in tens) and shared on each doctor's table. On each clinic day, they were two to four doctors that attended to patients.

4.3.1.3 Doctor's Consultation

At about 10:00, the first patient on the day's register was called into the doctor's room for consultation and subsequently, other patients followed. Each patient consulted with doctors individually and the patients were directed to different units in the hospital based on individual patient's medical needs. (For example see patient journey one) However, most went to the APU. The folders were again collected by medical record staff in bulk (in tens to thirties) and taken to the APU. However, some patients individually took their folders to APU after being attended to at other units prior to ARV drugs collection.

4.3.1.4 ARV Pharmacy Unit

At the end of each patient's consultation with the doctor, patients prescribed ARV drugs (and or medicines for OIs) usually went to the APU and waited at the patient's waiting area. The folders were left in the order, which medical record staff brought them. Then, the pharmacist (s) on duty called the names of individual patients in that order for patients to take their turn appropriately. Subsequently, each pharmacist picked the folder from the top, went through the medical records, called the patient into the APU, confirmed that that was the right patient (verified with patient's personal appointment card) and asked the patient to sit down. Furthermore, the pharmacists asked the patient to confirm certain facts, informed him or her about changes or no changes to prescription, counselled and dispensed the prescriptions.

After attending the APU, the patients went to confirm their next clinic appointment with a medical record staff who was stationed at the APU; the patients then left the hospital.

4.3.1.1.1 Patient 1

Patient 1 (Appendix 5.3.1.1) was a 34 year old female who had been on ARV drugs for 36 months. She arrived at MDH at 17:00 on the evening preceding her clinic

appointment. She was not given her medical records as staff could not trace her medical records. She was called for vital signs measurement at 09:04, which was completed and recorded on a plain sheet of paper at 09:06 (time taken for vital signs measurement was 2 minutes). At 09:47, her medical records were retrieved and she was able to consult with a doctor at 10:00, which she completed at 10:10 (time taken for consultation with doctor was 10 minutes). Subsequently, she went to the labour ward for cervical cancer screening, and arrived at the APU at 10:41and completed her visit at 10:55 (time spent at the APU was 14 minutes). She booked for next clinic appointment at 10:57 and left MDH at 11:05.

4.3.1.1.2 Patient 2

Patient 2 (Appendix 5.3.1.2) was a 29 year old female, who had been on ARV drugs for 12 months. She also arrived at MDH at 17:00 of the evening preceding the day of her appointment. At 08:00 her medical records were given to her. She was called for vital signs measurements at 09:06 and her vital signs were measured at 09:08 (time taken for vital signs measurement was 2 minutes). She was called to consult a doctor at 10:30 and completed consultation with the doctor at 10:38 (time taken to consult doctor was 8 minutes). At 10:40, she arrived at the APU and completed her visit at 10:47 (time spent at the APU was 7 minutes). She booked for next clinic appointment at 10:49 and left MDH at 10:52.

4.3.1.1.3 Patient 3

Patient 3 (Appendix 5.3.1.3) was a 44 year old female who had been on ARV drugs for eight months. She arrived at MDH at 07:45, without any prior appointment to see a doctor because she felt unwell. Her medical records were given to her at 09:30. She was called for vital signs measurement at 09:40 and that was completed at 09:43 (time taken for vital signs measurement was 3 minutes). She waited and consulted a doctor at

11:37 and that was completed at 11:50 (time taken for consultation with doctor was 13 minutes). She went to APU at 11:55 and left the pharmacy at 12:07 (time spent at the APU was 12 minutes). She booked for next clinic appointment at 12:10 and left the hospital at 12:14.

4.3.1.1.4 Patient 4

Patient 4 (Appendix 5.3.1.4) was a 32 year old male who had been on ARV drugs for ten months. He arrived at MDH at 17:00 of the evening preceding his clinic day appointment. His medical records were given to him at 08:10 and he was called for vital signs measurement at 09:06, which was completed at 09:08 (time taken for vital signs measurement was 2 minutes). He waited and consulted a doctor at 10:10 and completed consultation at 10:18 (time taken to consult doctor was 8 minutes). He arrived at the APU at 10:20 and completed his visit at 11:46 (time spent at the APU was 86 minutes). He booked for his next clinic appointment at 11:50 and left MDH at 11:56.

4.3.1.1.5 Patient 5

Patient 5 (Appendix 5.3.1.5) was a 37 year old male who had been on ARV drugs for 7 months. He arrived at MDH at 05:00 and his medical records were given to him at 08:11. He was called for vital signs measurement at 09:08 and completed at 09:10 (time taken for vital signs measurement was 2 minutes). He waited and consulted an HIV doctor at 11:10, which was completed at 11:20 (time taken to consult doctor was 10 minutes). He arrived APU at 11:23 and completed his visit at 12:30 (time spent at the APU was 67 minutes). He booked for his next clinic appointment at 12:35 and left MDH at 12:40.

4.3.1.1.6 Patient 6

Patient 6 (Appendix 5.3.1.6) was a 39 year old female who had been on ARV for 24 months. She arrived at MDH at 05:00 and her medical records were given to her at 08:16. She was called for vital signs measurement at 09:30 which were completed at 09:35 (time taken for vital signs measurement was 5 minutes). She waited and consulted an HIV doctor at 11:00, which was completed at 11:10 (time taken to consult doctor was 10 minutes). She arrived at the APU at 11:22 and completed her visit at 13:05 (time spent at the APU was 103 minutes). She booked for next clinic appoint at 13:08 and left MDH at 13:12.

4.3.1.1.7 Patient 7

Patient 7 (Appendix 5.3.1.7) was a 52 year old male who had been on ARV for 35 months. He arrived at MDH 05:00 and was given his medical records at 08:16. He was called for vital signs measurement at 09:30 and completed at 09:35 (time taken for vital signs measurement was 5 minutes). He then waited and consulted a doctor at 11:11, which was completed at 11:20 (time taken to consult doctor was 9 minutes). He arrived at the APU at 11:22 and completed his visit at 13:05 (time spent at the APU was 103 minutes). He booked for his next clinic appointment at 13:10 and left MDH at 13:12.

4.3.1.1.8 Patient 8

Patient 8 (Appendix 5.3.1.8) was a 25 year old female who had been on ARV drugs for 4 months. She arrived at MDH at 05:00 and was given her medical records at 08:17. She was called for vital signs measurement at 09:33 and this was completed at 09:37 (time taken for vital signs measurement was 4 minutes). She waited and consulted a doctor at 11:22, which was completed at 11:30 (time taken to consult doctor was 8 minutes). She arrived at the APU at 11:33 and completed her visit at 12:35 (time spent

at the APU was 62 minutes). She booked for her next clinic appointment at 12:37 and left MDH at 12:40.

4.3.1.1.9 Patient 9

Patient 9 (Appendix 5.3.1.9) was a 40 year old male who had been on ARV drugs for 9 months. He arrived at MDH at 05:00 and was given his medical records at 08:20. He was called for vital signs measurement at 09:30 and these were completed at 09:32 (time taken for vital signs measurement was 2 minutes). He waited and consulted an HIV doctor at 10:30, which was completed at 10:38 (time taken to consult doctor was 8 minutes). He arrived at the APU at 10:40 and completed his visit at 12:50 (time spent at the APU was 130 minutes). He booked for his next clinic appointment at 12:55 and left MDH at 13:00.

4.3.1.1.10 Patient 10

Patient 10 (Appendix 5.3.1.10) was a 58 year old female who had been on ARV drugs for 22 months. She arrived at MDH at 07:30 and was given her medical records at 08:30. She was called for vital signs measurement at 10:00 and completed at 10:04 (time taken for vital signs measurement was 4 minutes). She waited and consulted a doctor at 12:00, which was completed at 12:08 (time taken to consult doctor was 8 minutes). She arrived at the APU at 12:13 and completed her visit at 16:00 (time spent at the APU was 227 minutes). She booked for her next clinic appointment at 16:05 and left MDH at 16:07.

4.3.2 Time Spent at Three Units

The time spent to receive three clinical services; vital signs measurement at nurse's station, consultation with doctors and ARV pharmacy service (time spent at APU includes waiting time from initial time of arrival to departure at the APU. Actual time

spent with the pharmacist was not recorded but the time recorded when shadowing was time of arrival to time of departure – therefore the majority of this time was waiting) on clinic days are shown on Table 4.6 and Figure 4.1. It was observed that patients spent between 4 and 19 hours (Table 4.7 and Figure 4.2) at the hospital to receive those services.

Table 4.6: Time Ten Shadowed Patients Spent at Three HIV Units of MDH

Patient	Time (minutes) for Vital signs measurement	Time (minutes) for doctor's consultation	Time (minutes) spent at ARV pharmacy
1	2	10	14
2	2	8	7
3	3	13	12
4	2	8	86
5	2	10	67
6	5	10	103
7	5	9	103
8	4	8	62
9	2	8	130
10	4	8	227

Figure 4.1: Time spent at Three Units by each Patient Shadowed

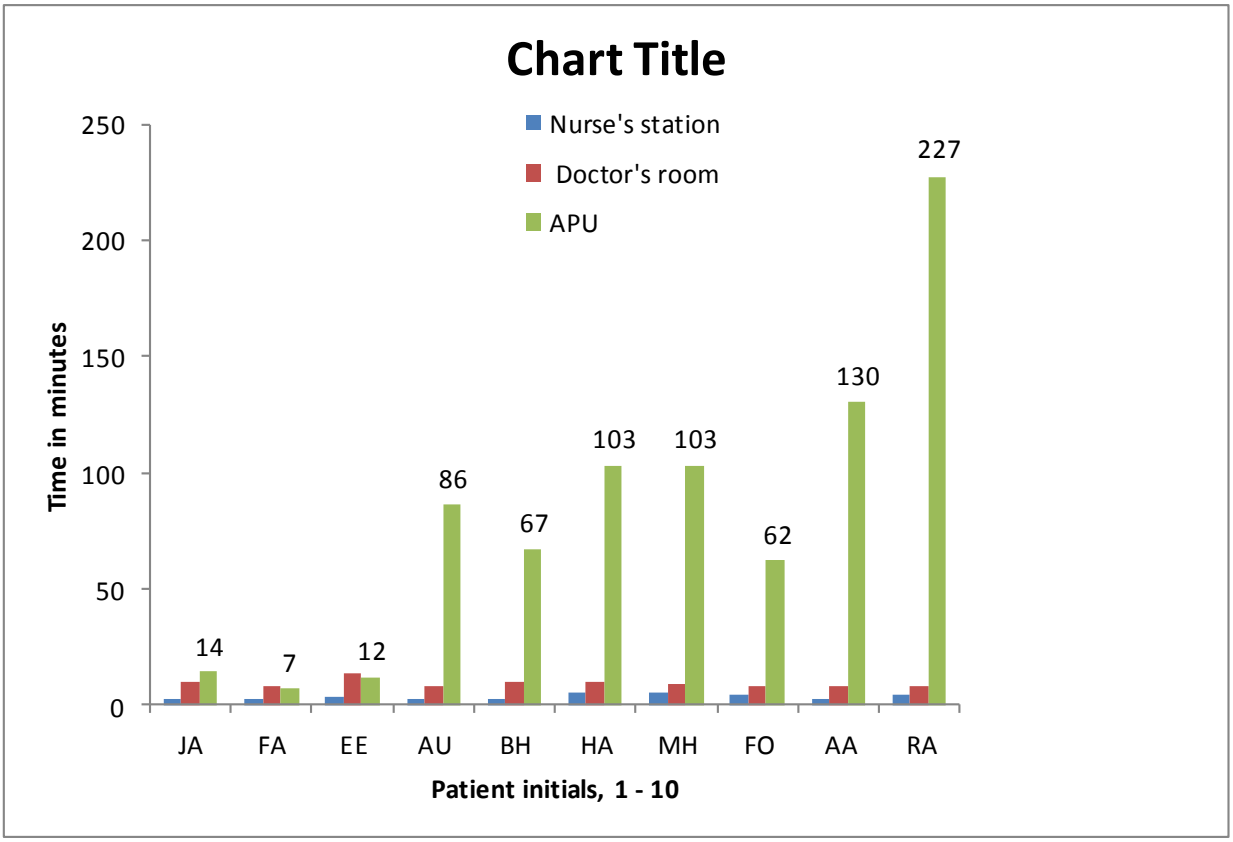
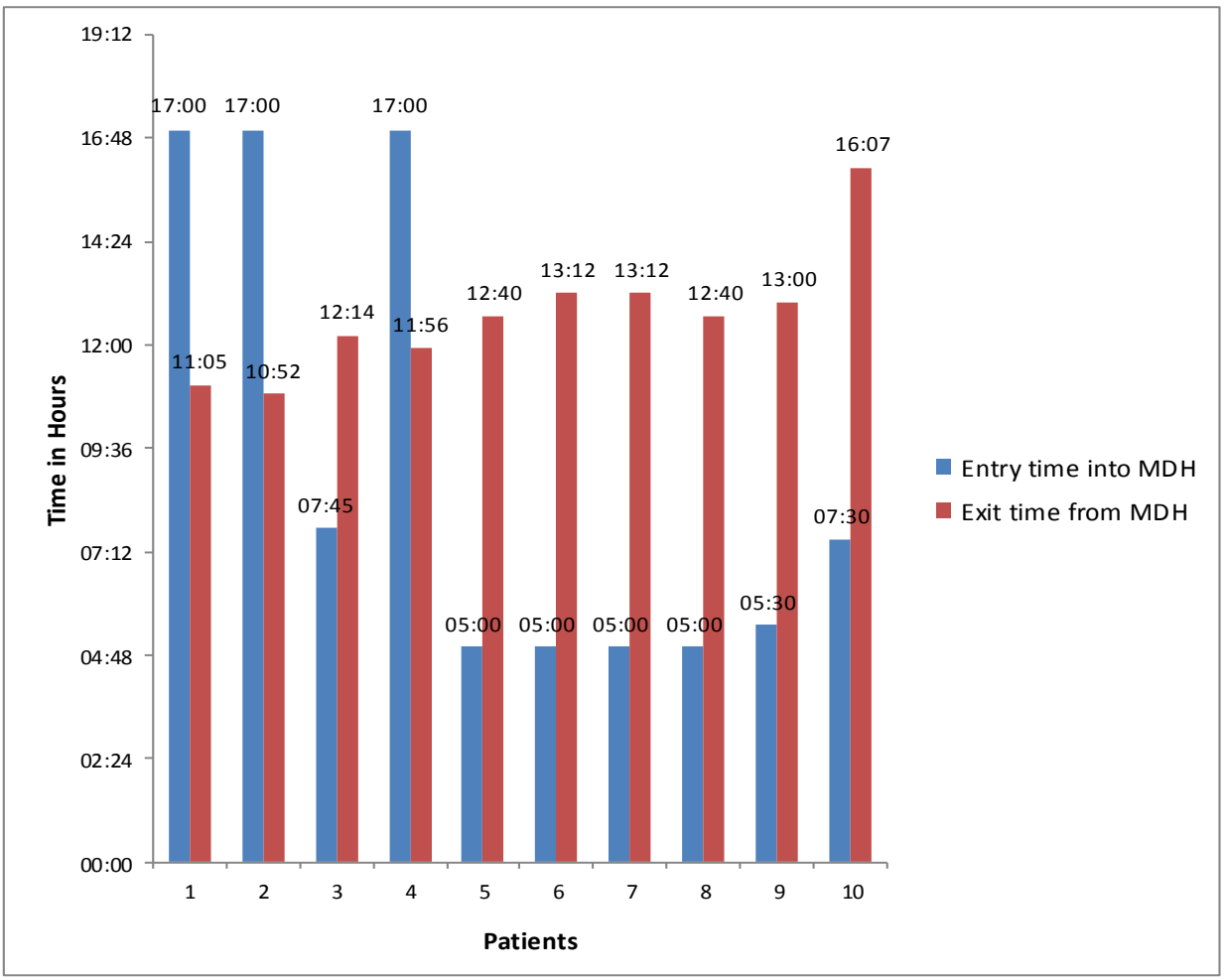


Table 4.7: Observed Total Time spent at MDH by each of the Ten Patients

Patients	Entry time into MDH	Exit time from MDH	Total time spent at MDH
1	17:00 previous day	11:05	18 hours 5 minutes
2	17:00 previous day	10:52	17 hours 52 minutes
3	07:45	12:14	4 hours 31 minutes
4	17:00 previous day	11:56	18 hours 56 minutes
5	05:00	12:40	7 hours 40 minutes
6	05:00	13:12	8 hours 12 minutes
7	05:00	13:12	8 hours 12 minutes
8	05:00	12:40	7 hours 40 minutes
9	05:30	13:00	7 hours 30 minutes
10	07:30	16:07	8 hours 37 minutes

Figure 4.2: Observed Patients' Journey Entry and Exit Times



4.4 Nigerian Pharmacist Interviews

Ten hospital pharmacists were interviewed during phase 1 interviews; five were female, and five were male. One was an intern (Trainee) pharmacist; three were volunteer pharmacists; and the remaining six were full-time permanent staff.

The volunteer pharmacists were registered pharmacists in Nigeria who have completed training provided by Global HIV/AIDS Initiative Nigeria (GHAIN) to provide HIV/AIDS clinical services. Intern pharmacists are certified graduates of Bachelor of Pharmacy, provisionally registered with the Pharmacists Council of Nigeria, employed by the Ministry of Federal Capital Territory Administration (MFCTA) and posted to MDH to provide clinical pharmacy services for patients under supervision of a fully registered pharmacist, and gain more experiences. While the full time hospital pharmacists are the registered pharmacists in Nigeria duly employed by MFCTA and posted to MDH to provide clinical pharmacy services for patients. All the pharmacists interviewed for this study had additional training to enable them provide clinical service for HIV/AIDS patients, and, had worked in the APU.

4.4.1 Concepts

From the analysis of the pharmacists' interviews, five concepts emerged from the main themes identified (Table 4.8). The themes are fairly grouped into five concepts which include:

- Clinical Service Delivery;
- Impression of Clinical Services provided;
- Social Issues associated with HIV/AIDS;
- Obstacles which obstructed or could hinder patients' compliance to ART; *and*
- Pharmacist Expectations which will enhance clinical service provisions.

Themes which have been talked about by at least two pharmacists or more will be backed up with direct quotes.

4.4.1.1 Clinical Service Delivery

The pharmacists described the services they provided for the patients at MDH. The main clinical services the pharmacists spoke about include counselling after verification of patient's details, grouping them and screening of prescriptions. They counselled and educated patients on the need to know what medicines they were taking, and be absolutely adherent to their ART to avoid viral resistance to ART. The patients were also educated on how to take ART with emphasis on the timing intervals between doses (since ART efficacy is time dependent). This is encapsulated by the sixth pharmacist interviewed and is quoted below.

"We counsel the patients because the whole essence of ARTs, antiretroviral therapy is to make sure that this patient is assessed and classified. We have WHO classifications like stages 1,2,3,4, we also have immunological assessments which tells you of the CD4 count. So once the person is eligible for ARTs or ARV treatment, the patient is placed on it, we have to make sure the patient understands that these drugs as at today will have to be taken almost for life. Some people come and said okay what if I take this drug for one year, two years and my CD4 count comes up to 800, can I stop taking it? I heard my friend told me…we have to make them understand that there is no such thing as starting and stopping the ARVs. And these drugs are not like your normal drugs you can take em… in Nigeria people, say take one three times a day, take one in the morning whenever you remember, take one in the afternoon whenever you remember, and one in the night whenever you remember. But make them know that these are time dependent drugs, drugs that the administration is time dependent, mostly is 12 hourly or 24 hourly. So if you take these drugs by 8 o'clock if you have to set up an alarm…to

make sure you take by…if you took the first dose by 8:00 am in the morning." (Male, pharmacist 6)

4.4.1.2 Impression of Clinical Services Provided

4.4.1.2.1 Satisfactory Service

The pharmacists spoke about how they perceived the services provided. All, to an extent felt satisfied with the service provision, though working at APU came with challenges and chaos when considering the environment and number of many patients attended to by few staff.

"I felt that the level of healthcare provided for patients are satisfactory…are very satisfactory. Though we …we discovered that the ratio of patients to pharmacists are actually very high so because of that as we contain that factor we may not really have enough time to sit down with the patients to give them detail counselling and may be that part of their drugs. In the midst of that pressure, pharmacists still take time to sit their patients down and give them the necessary counselling and care." (Male, pharmacist 2)

"My view is that you know…is just simply the same thing everywhere em… you know in Nigeria, the problem we are having is inadequate staffing that is the only problem. Sometimes you see yourself…Those that are working in the clinic, sometimes, they work even up to 11 in the night dispensing drugs to patients, counselling them and all the pharmaceutical services we render to them. So that's it…is a little hectic that's all ---- You can't just leave some of the patients you know, knowing fully well that if you don't give them their drugs. Some of them come with their drugs almost…already finished and you can't just tell them to go and come back because you are battling with resistance if you know the implication. If you don't give the patients their drugs for some…just for a few days, you know resistance can set in, so we try to clear the log in

everybody to make sure we attend to everybody that came for the day." (Male, pharmacist 3)

They also felt that patients were more comfortable discussing their issues, including personal issues, with the pharmacists when compared with other staff.

"Generally, I think we are all doing a great job because we are under a lot of stress… One, we have too many patients and then we don't have enough staff you understand. And first of all we have to get to know the patients, should I say individually that kind of stuff ----- They don't feel as comfortable with the doctors as the pharmacists. What they cannot tell the doctors, they usually tell the pharmacists, they come here searching for me because I don't sit down here; peeping and looking, madam I'm looking for you." (Female, pharmacist 9)

4.4.1.2.2 ART High Compliance

The pharmacists stated that compliance to ART was high, as patients reported that they took their ART as prescribed. This is summed up below.

"Compliance is 100%...compliance is 100%...the only problem we are having; I would have said, is this rationalise, but none of them goes out of their drugs. No one knows what will happen if the government…since the government is not even actually responding, the people that are responding are most of these NGOs." (Male, pharmacist 4)

"Compliance in Nigeria is very high and also people want to live, and you see…is in this case you see that you know people …nobody wants to die… Ask them are you taking your drugs, yes, I'm taking it. If you really want to prove it, ask them, they will tell you how they are taking it. So occasionally, they miss their drugs, is not out of context…some of them actually miss one or two doses in a month. Well, we counsel them don't miss again and they say yes." (Male, pharmacist 3)

"I can even reveal to tell you that success rate is above 70 because I have found people who have been on this programme and their CD4 count has steadily been on the increase in the last six months. I know somebody who came in, he was like 48 and today he is 118, to be frank, I'm not sure of the figure. And I saw someone, I wasn't attached to this unit when the person started, the person started ARVs about one and half years ago and today, her CD4 count is over 800, when she started she was 147, so we have such stories you know." (Male, pharmacist 6)

4.4.1.3 Social Issues Associated with HIV/AIDS

4.4.1.3.1 Stigma

The pharmacists noticed that most patients were ashamed of associating themselves with ART, as patients took the tablets out of their packs before they left the hospital.

"A lot of them (patients) still…because of this stigma that is attached to HIV. A lot of them do not still come out openly to take their drugs, they tend to take their drugs in secret, they…do not embrace their drugs the way em…they embrace other drugs. You discover that they hid these drugs, before they could even leave the premises you see them removing the drugs from their packs and throwing the packs away. So they always try to hide the drugs and by so doing they tend not to know the drugs. They don't know the names of the drugs they are taking and at the same time in the process of doing that you discover that they are mixing the drugs. They are mixing the dosages, instead of taking aaaa…combivir, in the process of hiding it, they are taking the wrong thing, if they are supposed to take once a day, they will end up taking it twice a day." (Male, pharmacist 2)

"When you even give them (patients) the drugs, they are somewhat, ashamed to carry the drugs about, so you see them even before leaving the hospital premises. They remove the drugs, remove the label and everything so that people won't be able to

identify what they are holding or when it is time for them to take, people will not know. Some will even open the drugs, poured it inside dispensing envelope just to keep the identity of the drugs because they believe the environment will stigmatise them." (Female, pharmacist 5)

4.4.1.4 Obstacles

The pharmacists spoke about barriers or obstacles which prevented them from carrying out their tasks thoroughly.

4.4.1.4.1 Many Patients/Few Staff

Pharmacists spoke of the volume of patients attending clinic days coupled with few staff.

"The most difficulty is staff. We don't have enough hands that is all, no enough hands and the patients are many -----When you talk of space, it affects the hospitals generally, and is in all our hospitals, there is a space constraint, you just manage what we have, that is all." (Female, pharmacist 5)

"They (patients) are so many, number one the issue of staff, we don't have enough staff. If we had some…their staying time you know because from the time for you to see a patient to go through their…the folder to greet the patient, to counsel the patient takes time sometimes it takes up to 10 minutes. 10 minutes is a long time, if every patient that comes in …you are seeing somebody every…you are seeing one patient every 10 minutes and you are seeing 100 and something, you can imagine how long it takes ----- If you come in the morning, you don't close till very late, so is long they have to stay, they come from very far away places also." (Female, pharmacist 7)

4.4.1.4.2 ART Rationing/Shortage

Pharmacists said they had to ration ART since dispensing complete prescriptions over two months for each patient would amount to denying other patients ART that day.

"If the drugs are not enough we can ration the drug, if they say six months we can give three months. Record the person's name say come back and I think that is basically, just it ----- A times we want the drugs to go round because sometimes we have to go to Wuse or somewhere, is not to give someone six months the other person comes and doesn't get any." (Female, pharmacist 9)

"Three months those days, we used to have problems we…the stock is limited and if we give one patient three months' supply, we are really really going to have problems and if you could look outside, you will see about 50 or 30 people having their prescriptions not yet filled. So, what you do is to cut it down, you give the patient one month. Then, we have a book we call em… incomplete dispensed book, then we enter the patient in the incompletely dispensed book, note the amount we are giving him, the amount remaining. Three months prescribed, one month dispensed, two months left, no need to go to the physician, is now between us and the patient." (Male, pharmacist 3)

4.4.1.4.3 Working Environment

Pharmacists spoke of difficulties at the APU, such as lack of air conditioners and computer software that frequently hindered their daily tasks.

"Another factor is the word in Nigeria about power I was speaking to a project partner in one of the meetings we had, when I met him and I said why is it that we are not…all our data entry are not computerised on real time…are not done on real time and he explained and I can understand because sometimes when you are working there is no light ----- Maitama is far better than so many sites in the suburbs and outskirts of the city. When you leave a city like Abuja, you can imagine what goes on there, so the light

and the electricity problems is…is nationwide and is not only peculiar to HIV or ARV pharmacy ----- Space is a problem then the software's, even though the NGOs are ready to supply them but we need more computers and software's and real time data entry or so." (Male, pharmacist 6)

"A times when you are working…the working environment… you have been to that our place, I remember it was sallah day, all the whole air conditioners have packed off and the heat was so much. I had to open with one hand, I was fanning myself and was sweating, is not too ideal." (Female, pharmacist 9)

4.4.1.4.4 Patient Attitude

According to the pharmacists, the patients were mostly in a hurry to take their leave from the clinic. Patient attitude was attributed to the fact that most patients did not take appropriate permission from their workplaces to be at the clinic and so, wanted to return back to their work before they were found out.

"And again, some of them (patients) sneak out of office to come and pick these drugs too, they can be here and they are receiving phone calls too. So, if you are trying to offer pharmaceutical services, which to us, is almost compulsory because you just don't handle over the drugs because these drugs they have guidelines; you have to check out for prescription errors first, you have to counsel the patients, register their IDs, the patient's name, the pharmacist's ID, then you write out all the details of the ART regimes given to the patient. This information tells you how many patients are on particular drugs and you can make provisions for such drugs accordingly. At times these things, they may not have time for it and they can actually boil and say what they want to say. And you as a trained healthcare professional or healthcare provider, is just one of those things in the line of your duty, you just do your best and make sure you put the situation under control." (Male, pharmacist 6)

"When you look at their (patients) behavioural attitude everything, you know. A times, we have had patients that they will just turn like…they will just look at you as if the services you are giving is not even important, they just want to get their drugs and get out of the place. So we still talk to them, bring them down, may be somebody offended them somewhere, may be personally from their house, may be their husband or their wife, sometimes transfer of aggression. We let them know that the services we are about providing …is very very important…is the most important because if they don't adhere…don't get counselling …you know adherence is very very important. Because if they are missing just like two or three doses in a month that is in fact something will happen in their systems, so we need to let them realise it." (Male, pharmacist 8)

4.4.1.5 Pharmacist Expectations

4.4.1.5.1 Employ more Pharmacists

The pharmacists expected the authorities to employ more pharmacists, to update their training to provide improved HIV services and to assign them to permanent positions at APU.

"They can employ more pharmacists, so that we will be able to spend quality time with the patients. We have to hurry, so that we can finish on time. As at last week, I think they finished around 7:00 pm and you know once you start getting tired, the quality of service you offered will be reduced because the enthusiasm will not be there again. You are just eager to let the patient go, so you won't have time to really talk to the patients and counsel him, which is what we are supposed to do, we are supposed to be counselling the patients, not just give them drug, one morning one evening bye bye, go, we have to counsel." (Female, pharmacist 1)

"Personnel ----- that is one of the challenges we are having because a times to attend to patients on their clinic days Mondays and Wednesdays so busy and considering the

number of pharmacists at the ARV is not easy. Because a times a em…what about two or three should be handling, you alone will be handling. A times we close very late you know, normally we suppose to close at about 3:00 o'clock but we find ourselves closing around 7, 8 in the evening, you know ----- If more personnel can be recruited. More pharmacists can be deployed to ARV clinic to facilitate how the work …to reduce the stress on pharmacists is very very important." (Male, pharmacist 8)

"I think we should have permanently… There are no a….Mrs Akande can be pulled out of that place tomorrow, she is the one that is there currently, you see there is no continuity…somebody like Aisha now that had gone on training…Aisha…Pharm. Aisha was trained specifically by Ghain and she is the focal person here in Maitama hospital, she is now in the store, now she has been pulled from the ARV clinic to pharmacy store because there are no permanent staff in ARV pharmacy, so my suggestion is that government should put some permanent staff there you know that this man is even trained. This man is there, this man is coordinating activities at the ARV clinic, when internees come, this man will put them through; this is what you do, you supervise them (other pharmacists)." (Male, pharmacist 3)

4.4.1.5.2 Regular Medicine supply

They also wished for greater availability of ART and other medicines.

"We need enough drugs, adequate availability of the drugs; it will even help them if we have…patients that are already stabilised. If we can provide for them three… three months course of therapy, it will now reduced the… time the patient comes to the hospital." (Male, pharmacist 4)

"The government should try to make the drugs…have more drugs regularly." (Female, pharmacist 9)

4.4.1.5.3 Working Environment

They were strongly of the opinion that the non-conducive working environment could be improved by the provision of more space for patients and increased storage facilities to keep the ART drugs and necessary equipment.

"I will say…that a bigger space can be set for the pharmacy too. Our Storage conditions you understand what I'm saying, we need adequate storage facilities for the drugs, you understand what I'm saying because…you know, ideally our drugs should be arranged on the shelves not on cartons on the floor. We don't have where to arrange them, we don't have top shelves. You go in there; you can go and see for yourself. You see the drugs in the cartons on the floor there, actually we are dispensing directly from the cartons whereas we are supposed to dispense from the shelf." (Male, pharmacist 3)

"The working areas, there should be more space for working so that all the drugs you can just stretch your hands and get them." (Female, pharmacist 1)

Some pharmacists also expressed the opinion that volunteer pharmacists should be paid *stipends*.

"This issue of staffing like these volunteers sometimes they are not being paid especially the pharmacists they don't give them stipends. I don't know what they say they give the doctors but they don't give the pharmacists, sometimes they come here they are tired." (Female, pharmacist 9)

"Then we (pharmacists) wouldn't mind if there is any …if there is any incentive for the pharmacists working over there (APU) because they used to work extra hours without any compensations, if it is to boost their morals." (Male, pharmacist 8)

Table 4.8: Themes and Concepts for Nigerian Pharmacist Interviews

Concepts	**Contributing Themes**
Clinical service delivery	Fact finding (2) family's HIV status (3), knowledge of ARV drugs (4), complaints/side effects (5), confide in somebody (1) provide one on one clinical service (1), counselling (5), drug resistance (3), pharmaceutical care service (4), prescriptions vetting (5), matching each patient to individual folders (3), liaise with medical doctors and teamwork (3) dispensing/refilling (4), CD4 cells count (1), emphasis on dosing frequency (3), WHO classification guidelines (1), register patients (1), patient education on ARV drugs compliance (1), document ARV drugs (1),
Impressions	Satisfactory service (2), trained for the job (1), highly service & great job (2), ARV drugs high compliance (2), reduced death rate (1), joy (1), success rate (1), pharmacists could provide more service (1)
Social issues	Increased public awareness (1), Stigma (4), ignorance (2), NGOs support for HIV (3), tracking HIV patients (1)
Obstacles	Concealment of ARV drugs by patients (2), challenging work (1), sympathy (6), more work load for pharmacists (1), many patients (7), few staff/pharmacists (10), time factor (1), ARV drugs out of stock (7), ARV drugs ration (4), patients do not know their ARV drugs (2), patients hurry out of hospital (4), HIV patient's attitudes (3), ARV drugs low compliance (1), non- conducive working environment (3), small working space (5), delays (1), high complications (1), patients spreading HIV (2) more infected HIV patients (1), ARV drugs for life (1), language barrier (1),

	electricity outages (1) delays due to many patients (1),
Expectations for improvement	More input from pharmacists (1), more public awareness on HIV/AIDS (1), employ more staff/pharmacists (9), regular ARV drugs supply (3), adequate working environment (5), enough working tools (1), permanent HIV pharmacists (1), HIV laws to protect HIV negative persons (1), software for data entry (1), electricity (1), retrain more pharmacists for HIV service (1), increase clinic days (1), decrease clinic patient numbers (1), staff incentives (3), language translator (1), patients' genuine feedback about service provided (1)

4.5 NHS HIV Pharmacist Interviews

For a comparison, NHS HIV specialist pharmacists were interviewed at four different hospitals in the UK after data collection from Nigeria. The discussion centred on the role they played in the management of HIV/AIDS outpatients.

4.5.1 Concepts

After the analysis of NHS HIV pharmacist interviews, five concepts emerged from the main themes identified (Table 4.9) which were based on their spoken and body language as written in the transcripts. Like the Nigerian pharmacist interviews, the themes are fairly grouped into:

- Clinical Service Delivery;
- Impression of Clinical Services provided;
- Social Issues associated with HIV/AIDS;
- Obstacles which hindered or could hinder patients' compliance to ART; *and*

- Pharmacist Expectations, which will enhance clinical service provisions.

4.5.1.1 Clinical Service Delivery

The pharmacists said the clinical services they provided include; assessing patients prior to classifying them, attending to every patient, one on one basis, medicines' history taking, educating and counselling on ART adherence, helping patients with choosing their ART, checking ART with each patient and advising patients on side effects of ART amongst others.

"We have got two groups of patients; one is…your new patient and one is…err treatment naïve and inexperienced patient, yea. When the new patient comes in, they will see the health adviser…they will see the consultant…they will see the nurse…they will see the pharmacist. My role is to give them as much information about what HIV treatment pathways is, you know…use the HIV ibase patient booklet, explained to them the journey of the disease state. The journey of the medication, how it works, what monitoring is required, what to expect…the importance of monitoring…everything is explained in a one hour appointment ----- We are extracting basic drug history from that patient; previous drug history, co-morbidities, allergies, life history, family history, the social-sexual history is taking by the health adviser. The GPs will have their inputs…to the GPs through the consultants. All that is combined in the first visit, we give them information to take away to read and absorb and come back in a week later. That gives them a week to go back and reflect that they are ready to start treatment, okay. When they come back, by which time we may have the genotype resistance report come back which tells us which drug will be suitable and which won't be suitable. Matching that with drug history taken by myself, we design a pathway of treatment of drug choice options based on the guidelines. We initiate the treatment at week one, as they come in, we decided. Already they have gone away, any question from last week conversation, they

said yes...no…they usually have a lot of questions to ask, as we clarify, reassure, we check their thinking and their understanding that takes a good half an hour." (Male, pharmacist 4)

"So you know, we can only spend limited amount of time, but the doctors will go through medical things with the patients and err…we have basic things we would with these patients that come through. Checking the drugs with patient, checking any other medicines that they are taking for interactions, checking that they are taking the right thing and err…you know ----- Checking that they are taking with food or without food may be necessary ----- As soon as they start treatment, they will all come and see the pharmacist first for a session, which is a very special clinic…start clinic. We will spend four hours going through with the patient, everything to do with antiretroviral and adherence and the different treatment options." (Female, pharmacist 3)

Dispensing of ART was carried out at hospital pharmacies or contracted pharmacies such as Boots pharmacies and there was also home delivery of ART.

"The medication is all dispensed through Boots pharmacy, which is close to the hospital. They do…err… they do all the outpatients dispensing, and filling of prescriptions for whole the hospital, they can also deliver to the patients within the catchment area. So is like a home delivery service and err…there is also …they can pick it up from the pharmacy that is near to their homes as well. So we try and make life easy as possible for the people, so if they come to clinic and is a long way and they don't want to get and their medicines from the counter, there are other options for getting their pills." (Female, pharmacist 3)

"Previously, we had patients whose prescriptions were sent to pharmacy, prepared and sent back here for collection. We stopped that service 12 months ago and what we are doing now, we have onsite dispensing here, we have a technician in the room next

door. We will issue a prescription at the beginning of the consultation, it will get dispensed by the technician, I will double check it and then go with the medication to the patient." (Male, pharmacist 4)

4.5.1.2 Impression of Clinical Services Provided

4.5.1.2.1 Very Good Service

The NHS HIV pharmacists described the service provided for the patients as good, very good, very integrated, beneficial and or invaluable, thus, they were satisfied with the service provision. They also said that the service involved a multidisciplinary teamwork approach in close proximity as regards care of patients whilst they were more doctors at the HIV clinic compared to pharmacists; this affected the time the pharmacist could spend with each patient as stated by the pharmacist with the BHH.

"Here, the patients get a very good service, I think is a very integrated service that we provide, so is very much multi-disciplinary. Err...particularly in this hospital, so we very much work as a team. So, is being a patient's...is not just the doctor level service which I think is important, you know… the clinical nurse specialist, the dietician, the pharmacist, occupational therapist, the social worker as well, everyone is got their part to play in helping, you know, to successfully treat the patient. I think that is quite important ----- I think if you compare HIV services to the outpatient service and the amount of time the patient gets here within clinic compared to… you know, any other general outpatient setting. They get a lot of time and they get a lot of input, which is really good for the patient. So you know, a patient here will have a whole half an hour with a doctor for each appointment and err -----The consequences of treatment not being successful, I think somewhere through that we can justify that -----The way that it works, within clinic time, any patient that sees the doctor, has a prescription will always come through to see the pharmacist ----- obviously we spend less time with the patient

compared to the doctor because you might have three or four doctors in clinic but just one pharmacist." (Female, pharmacist 3)

4.5.1.2.2 Many Clinic Days

The pharmacist with the SOH spoke about when and how the clinics ran and how patient lists were drawn with regard to whom they needed to see; the clinics operate from Monday through Friday and include evening clinics.

"In terms of pharmacists' involvement, we currently have six clinics a week, potential seven clinics a week, Monday to Friday there is a clinic, Friday is a double clinic, morning and afternoon. There is adherence clinic on Wednesday afternoon and a clinic on Saturday morning. For instance if we highlight a patient who needs a lot of our time and we can't schedule to see during the routine clinic, we can get them in on a Wednesday afternoon if they turn up. Scheduling is done via our appointment system. Every time a patient sees…comes into clinic to see a doctor, if they need medication, they will see me. If a patient needs to see only me, they approach our nursing staff and the nursing staff book appointment for them to see me ----- A patient is booked on a code to see me, so at the beginning of a clinic I picked up the sheet, I know exactly who is on the list… I can look out a patient who is here and needs my attention ----- If the patients are only to see me, then we can give them a set time, ordinarily, a lot of our patients understand that we have clinics running, that I can't guaranteed that we see them at a particular time. The approach that I have with my patients is that I'm honest with them and they know if I can't see them. (Male, pharmacist 2)

4.5.1.2.3 Availability of ART

The pharmacist with the NCH acknowledged that the hospital provided a good service in line with national treatment guidelines for HIV patients. Those HIV patients who presented with late stages of the infection were cared for by consultants. He also said

that the hospital stocked variety of ARV drugs regimens, which were readily available for the HIV patients.

"I think is...a Good service and we've got em...we've got about 400...between 300 and 400 patients are on treatment. Usually err...we start treatment when their CD4 cell counts are around 350, so we monitor their CD4 cells count in line with our national treatment guidelines… BHIVA, we start treatment when their CD4 cells count fall below that 350. And the patients we have, they are on treatment when their CD4 cells count drop to that level ----- to have suppressed viral loads, which is the aim… of antiviral therapy. And because we have got a lot of quite different regime available, we can always find the regime. We do get some patients who present late, so we take the patient to the consultant… that they present late…so she is got cancer and em...then the patients are usually considered as consultant patient." (Male, Pharmacist 1)

4.5.1.3 Social Issues associated with HIV/AIDS

4.5.1.3.1 Disclosure Issues/Stigma

Also, the pharmacist with the SOH identified that patients appeared to have problems regarding disclosure of their status (with lack of privacy where they live), patients in denial as their status and stigmatisation.

"We have as well is…housing, you probably think what has housing got to do with this? A lot of our patients are from abroad, they may be asylum seekers, they may be refugees. For them, is not just the matter of I can put my medication wherever I want in my house. They might just live within just one room in the house, and whom did they share that room with? They could be sharing that room with complete strangers, so for strangers to have a look at their tablets… medication, that ooh…they see that on the shelves, it does not take much to go on to Google, type the name of the drug, and straight away, the patient's status is disclosed. Sometimes patients are concerned they

don't want to be seen taking tablets or they having an association, they have psychological issues that em…I'm taking medication because I'm ill but I look fine and I feel cool, why should I take medication to treat symptoms that I don't even have yet when the medication will cause me side effects. So there is a huge barrier like that. Other things that we have is, there is still a lot of stigma, patients don't want to come to clinic, we have been in a situation where a patient has turned up to clinic, not even got to the stage where they will get to be with unitary where the nursing staff. They have looked down the corridor, seen all these faces, and are not keen on that, turned out and walked off before they are even being seen by the doctor. How can we sit them down, talk about the medication, get them to take the medication, and we can't even get them to clinic, so that is that." (Male, pharmacist 2)

4.5.1.4 Obstacles

4.5.1.4.1 Language

The challenges the pharmacist with the SOH saw with regard to providing clinical service were centred around language barriers with his patients.

"There are a number of difficulties; the commonest one I think is language… Now, we are fortunate in a sense that within a multidisciplinary team, we have people from different backgrounds, is quite multicultural, so they cover a lot of the languages. So we get a lot of French speakers from Africa, err…we get some of the other native speakers from Africa as well; we got Arabic speakers as well ----- Sometimes, we need to get a translator. Is difficult enough explaining things to a patient, but when you are explaining it to a third party, we are always conscious if something is being lost in translation. And you know…like a Chinese visitor, you sometimes questions if the patient really understands it, you do your best, is still about it." (Male, pharmacist 2)

4.5.1.4.2 Time Management

The pharmacist with the WMH identified difficulty with the clinical service provided as time management of staff, which could lead to patient delay with patients becoming inpatient.

"Is the time, you know we have between 12 to 20 patients per clinic, which means we only have 20 to 40 minutes per person. If the nurse is going to do the bloods, the biochemistry, high blood pressure, doctor is going to see them, they may want to see the health adviser, then they gonna see me. And sometimes, they have to wait for me because I'm with someone else and that may take longer than 10 or 15 minutes because there is issues or concerns. So the patient is kept waiting and when I go to them they have been waiting for an hour before they see me because they come for their appointment 10 minutes earlier. They have spent about half an hour to 40 minutes with the rest of the team that is 50 minutes; they had to wait to come to me, then I spend another 20 minutes they could be here for an hour and half. And then is a turnaround in here, you can't rush them because you have to be sure that when they leave, there is no other question or concern…they will comply with instructions and the results are getting the right directions. So the difficulty is managing time and the resources to do that. They can be impatient; you know…I have been waiting for 20 minutes for you just to clear my medications…I have no issues. Or yes, I have a lot of issues but I parked my car outside with a parking ticket for one hour." (Male, pharmacist 4)

4.5.1.4.3 Abscondment/Paper Work

Furthermore, the pharmacist with the NCH went on to talk about patient numbers attending the clinics and the problems staff face; he felt the service did not require improvement.

"The maximum number of patients that have been attended to on a clinic day is twenty and least so far was four patients ----- Abscondment… non-attendance of clinic by registered patients… not turning up for their appointments while staff wait patiently for them. Em…we do have papers to stroke with the files but we take care of the patients who are coming. We sort of made time available to speak with the patients as far as we can go. So I think…I do not see anything wrong with the service." (Male, pharmacist 1)

4.5.1.5 Pharmacist Expectations

Although, the first NHS pharmacist interviewed spoke about the problems staff face; he felt the service did not require further improvement.

4.5.1.5.1 Managing Stable Patients

The pharmacist with the BHH spoke of further service enhancement for stable HIV patients (despite some concern over social workers funding) but did question if patients themselves realised the high level of service they were receiving.

"I suppose funding is always a difficulty. Err…say when we do directly employed social workers from…within heartlands but then social workers' funding has been cut for HIV services ----- I think sometimes expectation can be a problem for the patients; the patients are very well looked after. I think is a very very good service…err…I think they don't often realise how good that service is ----- One thing we are just starting for the moment is management of stable patients ----- If they are stable on treatment, rather than coming back to see the doctor every three or four months, they can come back to have their blood done and if everything is okay, we can give then give them a phone call to let them know that everything is okay. Then we can actually deliver or post their medicines. So is just mean that we can free up appointments that are needed by other

people and also the patients don't need to visit quite often…quite so much so as is a long term life condition." (Female, Pharmacist 3)

4.5.1.5.2 Support Groups

To improve on clinical service provided, the pharmacist with the SOH said they have begun to involve patients more in discussion around service delivery and have representatives from support groups present on clinic days.

"In terms of improving our service, one of the things we started doing is not just getting together in terms of the professionals that run the clinics and we thinking this is best for the patients. More and more so we are getting the patients involved, so we have now held our third patients' open forum ----- We said to them, tell us what you want. How would you like the service run, what areas do you think need to be improved, how can we get you to clinic, how could we make it a more comfortable experience for you ----- Another thing we have done is, rather than just having clinic, which is filled, with patients and staff, we have got groups…support groups such as Terrence Higgins Trusts who are people, also diagnosed with HIV and also on medication. Now, is easy for me to talk to a patient, please take these pills, I don't have to take them. But when it comes from someone else who has already been through what the patient is experiencing, they can relate to the patient and the patient can relate to them -----That backup will help them a lot more rather than me using everything to let them take their tablets at home." (Male, pharmacist 2)

4.5.1.5.3 More Clinics/Pharmacist and Nurse Prescribers

Furthermore, the pharmacist with the SOH spoke of more clinics and the ability for people other than doctors to be able to prescribe the ARV medicines.

"In terms of service that we provide at the moment, the out of hour service, I would like us to increase that further. So, more evening clinics, weekend clinics, but not just clinics run by nursing staff, clinics run by doctors but also I want to see more pharmacists at clinics. The situation we have at the moment just because you have clinics running from say 9:00am until 5:00pm, it doesn't mean you are not gonna get patients turning up at 3:00pm and say they want to get medication. If a patient turns up at 3:00pm, we can't do anything until we find a doctor to write prescription, however, if we have nurse prescribers and pharmacist prescribers, we can resolve that there and then. So this is what I'm pushing for, nurse prescribing, pharmacist prescribing, is already happening in other areas and in other centres, we need to catch up, that is the key thing that is my personal opinion." (Male, pharmacist 2)

4.5.1.5.4 Home Delivery of ARV Drugs

To improve on clinical service provided for patients, the pharmacist with the WMH suggested home care service, which was yet to start; though most of the HIV patients had been hesitant about it because of confidentiality issues.

"That is, now look at home care service because we haven't got that here. But we have had a lot of resistances and hesitancies from patients about home care ----- They don't like it…they know about it…they have heard about it, they have spoken to folks where it has been used; they still feel that there is issue about confidentiality or somebody questioning about this deliveries you are having. It might be the neighbour or sister. What is these deliveries you are having every two months or three months, four months, or somebody in the family who doesn't know about it, saying what is this delivery. Is very difficult, is all shared accommodation these patients, is just about keeping it discreet. But they can have collection from other points we told them, they can get from their retail pharmacy or their GP surgery but they don't want the GP to know…they don't

want the retail pharmacist…they don't want many people to know, they want it very close, sometimes some of their family members don't know. So that is a very big issue that we are trying to work on how we can improve that." (Male, pharmacist 4)

Table 4.9: Themes and Concepts for NHS Pharmacist Interviews

Concepts	**Contributing Themes**
Clinical service delivery	Follows treatment guidelines (1), medicines' history taking (2), patients' orientation (1), patients' assessment (1), supporting patients (2), educating, monitoring (2), checking the ARV drugs with each patient (1), Helping to advise on side effects (1), compliance and adherence counselling (1), Boots pharmacy dispensed ARV drugs (1), home delivery of ARV drugs (1), Focused on Individual appointments (4), classify HIV patients (2), patients' feedback (1), choice of ARV drugs for patients (1), a point of contact
Impressions	Invaluable (1), very good service (1), good service (2), beneficial service (1) team work (4), committed HIV pharmacists (1), very integrated service (1), ARV drugs availability (1), few patients (1), they get a lot of time, a lot of input, three clinic days (1), many clinic days (2), evening HIV clinics (2), one to one service (1),
Social issues	Housing issues (1), refugees, stigma (1), confidentiality (1), disclosure issues (2), worst cases were emigrants (1), curable HIV infection (1), non-acceptance of HIV diagnosis (1),
Obstacles	Late stage of infection presentation (1), paper work (1), funding cut (1), HIV patients' expectations (1), language barrier (1), time management (1), abscondment (1), unscheduled emergency cases (1), patients' impatience

	(1),
Expectations for improvement	Support groups (1), out of hour service, more HIV pharmacists (1), HIV pharmacists and nurses' prescribers (1), more HIV evening clinics (1), managing stable patients (1), home delivery of ARV drugs (1),

4.6 Management Staff Interviews

After the observation of patient journeys and further patient interviews, it became evident that it would be prudent to talk to management staff at MDH about their views of the HIV clinical service.

4.6.1 Medical Record Officer's Interview

The interviewee (Mr C1) was the administrator in charge of HIV patients' monitoring and management (PMM) unit. His interview was hand written by the interviewer which was based on the choice the interviewee made. Whilst being interviewed, his assistant, Mr C2, joined us. At this point there was no opportunity to ask him to leave. During the interview with Mr C1, Mr C2, did make comments and are reflected in the transcript (Appendix 5.5.1.1) excerpts.

The record officers did say that the HIV patient's journey at MDH was straightforward and patients were adequately informed about HIV patients' activities within MDH at the beginning of their registration.

"Is a smooth journey where new patients are directed to heart to heart for counselling. The first point of call is heart to heart, where the patients are properly counselled on HIV before HIV test is carried out and if found positive, they are properly counselled again with emphasis on complete treatment for HIV infection. Then individual patients are

advised on voluntary consent to HIV treatment before being sent to the PMM section to be registered as one of HIV positive patient at the facility. When a patient decides to be assessing HIV service in the hospital, such a patient goes to PMM office on a Monday and his or her details are recorded in an individual medical record by a professional record officer. From there, the patient is sent to consult a HIV trained medical doctor who will assess the patient on his or her next direction of treatment. A medical doctor will then send such a patient to the medical laboratory for investigation using the clinical evaluation form. Mainly to determine the CD4 count cells this is usually used to place a patient on ART (antiretroviral). Also body vital organs are monitored prior to starting patients on ART. Patients whose CD4 count cells are more than 350 and are not manifesting any sign or symptom of HIV are simply put on Septrin® for two weeks and under constant monitoring. Some patients that come with signs and symptoms of HIV such as rashes, wasted muscles, etc to the hospital are directly placed on ART without assessing their CD4 count cells initially. So, also patients that their CD4 count cells are 250 or less are placed on ART immediately if they can tolerate it. Subsequently, appointments are given to patients by doctors at short intervals initially for two weeks, monthly or bi-monthly then tri-monthly and later on prolonged when patients respond positively to ART. There are set down standards for opening procedures which are usually followed -----The counsellors at the heart to heart unit tell them about their movements in the hospital. The counsellors take new patients around the hospital compound to get them familiarised with the units."

They also said HIV patients were given block appointments on clinic days and to report at 07:00. They further said that they had regular meetings with other staff about service provision and respond accordingly within their powers.

"We give them block appointment time to 07:00. Initially it was 08:00 but the patients started coming late….sometimes later than 10:00 making the doctors to stay till late,

then we shifted the time backward to 07:00 ----- We do not give any patient appointment to come and sleep in the hospital ----- We were told that the waiting area to collect medicines (pharmacy) was not comfortable so we had to renovate and extended it. It is now comfortable ----- Usually during our weekly meetings, staff members from different units discuss about different observations they have made and we critically look at them… And if possible implement them."

They said that the main constraint they had, was to do with patients who did not keep to the appointment dates but simply turned up at the clinic whenever they wanted and then overcrowded the clinic. Hence, they made the medical doctors and pharmacists to work until late and or some patients were sent away by the pharmacists, which could have led to drug resistance.

"Patients do not keep to their regular appointment days and so over congest other patients' appointment days, thereby making it difficult for all staff members. Sometimes medical doctors stay till 16:00 and that will make the pharmacists to leave the hospital after 18:00. And some days, pharmacists send patients away to come back next day and that may make some patients to miss their doses which may lead to drug resistance."

They suggested reducing the number of patients to be seen on a clinic day to achieve quality clinical service provision.

"The most important improvement is to streamline the number of patients that can consult medical doctors in a day in order to provide quality service. It is better to provide quality service for 50 patients in a clinic day than to provide substandard service for 150 patients. Sometimes the doctors get exhausted and when they continued with fillings of forms which involve ticking of boxes, they do tick the wrong ones. Even in pharmacy where we still lack adequate number of staff. Sometimes, pharmacists come to help

(volunteer pharmacists) with few minutes' instructions, at the end of the day, mistakes do take place. We see these mistakes all the time, probably the staff that made the mistake had gone away; drugs have been dispensed for patients without recording them or recorded in the wrong folder. Patients have died due to drug reaction and nobody took it up or bordered to find out how they died. All these can be traced to over burden at work, so is better to go for quality work not quantity."

4.6.2 Senior Medical Officer's Interview

The medical officer in-charge of the clinical service for HIV patients at the hospital was also interviewed (Appendix 5.5.1.2).

Although, he acknowledged that there were some hindrances, he said the patient's journey at MDH was up to standard because the hospital had a blueprint on how HIV patients went about receiving their clinical services at the hospital.

"My views are …on HIV patients' journey in Maitama hospital is that, indeed, we have a developed blueprint of how our patients flow should be from one service point to the other. For now, I will say…the patient journey in the hospital is average because there are encumbrances here and there due to some sort of delays at the service delivery point as patients move from one point to the other. So, on a general note; I will say the patients' journey in Maitama District Hospital is…by my assessment is…on the average ----- Usually at the point of registering them before they commence ART, we educate and counselled them all on what to do and where to go to for subsequent services. So, they are aware that from the HCT (HIV Counselling and Testing) unit where the test is done, they move to the PMM where they are registered. At the PMM, they are also educated on where to go to for clinicians to see them. From the clinicians they move to the lab for their tests and then to the pharmacy and back to the PMM. So they are

aware of where to go to at any given time when they come to err…err…explore or assess our services at any facility."

He emphasised the fact that HIV patients waited for long period at the hospital to be provided with clinical services.

"There are feedbacks at every point especially at the clinic and most especially at the pharmacy. These are two points where our patients have some forms of delays because they spend quality time waiting especially at the pharmacy to collect drugs. They also spend some quality time though not as bad as they do in pharmacy at the clinic to see the doctors because of the…the ratio, patients' doctors' ratio is very …very high. So there are…. feedbacks we get back from patients. Sometimes they come to the medical record and they will tell them that their folders cannot be traced, you know. So patients sometimes go through frustrations because of assessing services ----- Well, I wouldn't say exactly of how much time a patient is supposed to spend but to the best of my knowledge, I know that patients come sometimes as early as 05:00 to the hospital to take their turns. And such patients sometimes stay in the hospital till about 16:00…17:00 before they leave. So, you can imagine somebody coming to the hospital to assess services when he or she needs to come to the hospital early enough to get access to the service. That does not still serve the patient, the patient end up spending the whole day before she goes through all the service delivery points for that day. On the average, the patient can stay err…an average of eight to ten hours before they access services…before they leave the hospital; that is the turnaround time. Ideally, in a normal setting, a patient should not spend more than one to two hours to access those services, so they spend quiet a long time…longer than expected here ----- Some (patients) come the previous nights to stay and queue up early to be able to assess services because they did that to avoid delays. But I think that has not even helped them…at all, you know."

He said that the hospital's main constraint was low staffing. Hence, he suggested that more staff should be employed whenever the authority so wished, more space should be created and staff attitude to work should change for better.

"The major constraint has been that of manpower. The hospital staff see what they are doing as additional work in addition to their routine job. But I want to align myself with some of the complaints they made in terms of manpower because on an average clinic day, we have about a 180 (hundred and eighty) patients to be seen by three to four doctors. So you can imagine how much time the doctors will need to see these numbers of patients. Secondly, at the pharmacy, there is only one resident pharmacist stationed at the pharmacy and there are volunteers that come and go at wills. Now the delay in the pharmacy is further complicated with the number of tools…they need to fill, the workbook, the patients prescription book that need to be fully signed by the pharmacist and endorsed by the patient. And all these things contribute to the delays. The bottom line is …Manpower is very very inadequate especially at the pharmacy unit. I have made personal efforts to visit the Administration of the FCT to recruit more Manpower to the facility because of the patients on the ground but up till now, we are still waiting but nothing has been done about it. Well…the basic improvements I think that can improve the patients' journey in Maitama District Hospital are first of all we need to improve the manpower base of the workers. Space is a …another major constraint because the patients are seen in just two consulting rooms at the clinic. The space is quiet inadequate but most importantly manpower needs to be improved upon. And then the workers in the facility need to err…develop ownership of the programme. They need to see what they do as their routine job because they draw a dividing line between HIV management and other activities. So they need to improve on the number of the facility, they need to improve on the infrastructure in terms of space and the attitude of the workers towards the job will also have to change. I am sure with these three

err…factors, err…err…solutions in place, patients journeys in the hospital will grossly improve."

4.7 Reflection

4.7.1 Why I decided to carry out this project and my anxiety prior to data collection

In 1990, when I became aware of HIV/AIDS, I remember vividly, people in my vicinity (also in hospitals) in Nigeria, including close relations infected with HIV/AIDS who have died. Throughout the duration of their illness, most of them refused to disclose their HIV/AIDS status to others even after their diagnosis by the doctors. None of those people wanted to be referred to as an HIV/AIDS patient. Even though, the type of OIs especially wasted muscles, skin rashes, frequent coughs, and oral thrush they got was obvious to others (including lay people) that they had HIV/AIDs but still did not want to admit their status to others. Why they choose not to tell people is open to conjecture but as possibly due to stigma, fear of being rejected or abandoned by friends and relations. Some of my friends and family also refused medical treatment because they preferred traditional therapy since some of them actually referred to HIV/AIDs as devilish infected illness.

One example that springs to mind was a woman, younger than me, who was well known to me and lived with her parent's in the next house to my mother, who fell ill in 1994. When I visited my mother in 1994, she took me to the woman's house to wish her well from her illness but to my greatest surprise, I saw an emaciated (all her ribs were conspicuously displayed) individual with only her head unaffected. She spoke aloud while we greeted and her mother said that that was the work of their enemies. I then ended my visit to their house, speechless and thought about her throughout that day, she later died that year.

Also, I once visited a HIV/AIDS patient (who was a junior administrative officer attached to pharmacy unit) on admission at ADH after one Sunday mass. His skin was covered

with rashes and he told me that he did not know how he contracted ‘that sickness’. He later discharged himself (ran away from the hospital) from the hospital, refused taking his medications and died afterwards.

These are some of the recollections and descriptions of people infected with HIV/AIDS I have seen.

During my training as an undergraduate pharmacist, I became more aware of HIV/AIDS during ward rounds and one day, vowed to myself that I would find out from HIV/AIDS patients themselves their experiences and what exactly made them feel that way.

I had further opportunities to come in to contact with HIV patients whilst studying for my master’s degree programme (2006 - 2007) in England. I identified one patient through their profiles, as part of my clinical ward rounds, was HIV positive. She had an African background and was advised by her employers to see her GP after an unresponsive to treatment cough and unexplained weight loss for months, after a holiday to her country of origin. I visited her about four times before she was discharged from the hospital and on each of those times, she was in good spirit. She chatted and communicated well with by every HCP that saw her over that period. Apart from her stay in low air pressured room in the ward during the procedure which was followed to make her diagnosis, everything went well (similar to in-patients with other infections) with her hospital stay. When she left the hospital, her CD4 cells count was high, so she was not prescribed ARV drugs but was asked to come back for her CD4 cells count after some months. However, she was treated for chest infection, oral thrush and other OIs that were manifested and she left the hospital, a more confident person. Her case uplifted my interest to further find out about the management of HIV/AIDS in the UK and as a clinical pharmacist who had practised in Nigeria; wish to find ways of improving management of HIV/AIDS patients in Nigeria.

So, HIV/AIDS patients' thinking toward me and their responses to the interviews were my innermost anxiety prior to data collection in Nigeria, because from my previous experiences, HIV/AIDS patients in Nigeria neither agreed that they were ill nor wanted to talk about the ill health. However, the patients honoured the invitation to be interviewed except for few cases that declined, though, it might have been different in the rural area where patients are directly identified to individual family units, to avoid stigma being attached to their family.

4.7.2 Limitations

We wanted to conduct this study in more than one hospital in Abuja for comparative purpose; however, data were only collected at MDH. It was not feasible to collect qualitative data by one researcher through interviews in more than one hospital within this study period. Also, our aims were to use first person information gathering for validity and reliability because GT methodology was applied, thus, we could not include more researchers. Furthermore, focus groups were considered (chapter 2 under data collection) but deemed an inappropriate methodology given the patient population and the aims and objectives of the study. Besides, HIV/AIDS is a topic that HIV patients were not willing to discuss their experiences openly to the hearings of others around them.

During phase 1 of data collection it became apparent quickly that English was not necessarily the first language of all interviewees and the researcher had to adapt language to fit with each individual participant, e.g. Pidgin English. While in Nigeria for data collection, my supervisors were in the UK, so, poor internet service in Nigeria and some hiccups with telephone communication delayed data collection and discussion about the study.

Some male patient interviewees said during the interviews that they contracted HIV form women (their wives or girlfriends) and I could see them struggling with those statements through their body language. That gave me the impression that male interviewers would have been more appropriate to interview the males than female interviewers would.

It was very thoughtful of the researchers to have agreed to interview all patients involved with this study at the hospital where they attended for health and safety reasons. Also, not many of the interviewees would have agreed to come for interviews outside their appointment dates since that involved extra spending for transport and time taken.

Verbatim writing (jotting) of interviews directly would be preferred with future interviews than relying more on voice recorder using dry batteries because I experienced disappointments with the dry cell batteries running out.

The patients' interviews were all conducted in one of the offices at APU since that was the most appropriate room made available during both phases of data collection. I wish it was in a different area of the hospital outside ARV pharmacy unit for interviewing patients so that the interviewees would not have associated me with pharmacy staff and probably, reserved their observations about ARV pharmacy staff.

Also, on a personal note, I would have been better off if my immediate family members lived with me while carrying out this study in the city where the university that approved the study is situated to avoid being away from my immediate family members whom I missed a lot throughout my being away from home. However, my immediate family members would have competed for the limited time I used for this study if they lived with me 24/7 which might have prolonged my study period.

5. CHAPTER FIVE - DISCUSSION

5.0 Introduction

This study involved interviews with adult patients who were infected with HIV and attending the HIV Clinic at the MDH, in Abuja, Nigeria. In addition, hospital pharmacists and hospital administrators involved in the management and care of these patients were interviewed at the hospital in order to ascertain the role/potential role of pharmacy in the management of these patients, and to identify opportunities and strategies whereby service provision could be improved. Also, for purposes of comparison, pharmacists specialising in HIV working for the NHS in the UK were interviewed.

Following systematic, re-iterative analysis, and coding, of patient interviews five major contributing concepts have emerged (Table 4.2 and Table 4.4) that shape patients' day-to-day experiences of living with HIV/AIDS and may have bearing on their approach to their management of their situation and the provision of services by the hospital. This study also addressed the hospital management of HIV adult outpatients from both the staff and the patient perspectives. The results suggest that the lived experiences of HIV patients are complex, and affect not only themselves, both physically, psychologically and socially, but also those people who care for them. It must be made clear that some of the patients interviewed constantly struggled to reconcile the reality of living with HIV. For example, in terms of the diagnosis, the fifth patient interviewed spoke of PLHA having psychological problems whilst patient 35 said that as each day passes, HIV/AIDS patients feel more sorry for themselves.

With regard to living with HIV, patients spoke of difficulties with both the availability of ARV drugs and of their adherence to ARV protocols. Some spoke about their anxiety at having to take their ARV drugs on a daily basis mostly at 12 hourly intervals, which they had to remember at the right times. Also, they said that they usually took the ARV drugs

with food, however they were concerned that the type of food may have a bearing on the effectiveness of their ARV drugs; more nutritious foods that were perceived as being able to boost their immune system. This perception around taking the correct sought of food may lead to adherence problems as noted by Musumari *et al* [239] who found that uncertainty about food was the most common concern that emerged, both as a day-to-day obstacle to ART adherence, and as one of the main reasons for patients discontinuing ART.

5.1 Patient Interviews

Twenty-five HIV patients were interviewed in the first phase of the study and ten in the second phase. The age of the respondents interviewed ranged from 21 to 59 years which falls within the prime of their working lives, and reproductive age adults. After analysis of all 35 patient interviews, five concepts were identified that influenced how they accessed hospital services. These were:

- Faith;
- Hospital Journey;
- Social Issues;
- Obstacles; *and,*
- Patient Expectations for Service Provision.

5.1.1 Faith

Faith was mentioned in the majority of patient interviews, both in terms of their religious faith and faith in the medicines working. Mention of religious faith was not too surprising given that religion (regardless of which followed) plays a central part in the lives of Nigerian people. Attendance at churches or mosques is commonplace; to such an

extent that it can cause severe traffic congestion forcing major roads to close during prayer hours on Fridays (Muslims) and Sundays (Christians). Every Nigerian is likely to believe in God or something (spirit of their forefathers). Thus, prayer is used for many things, such as asking for good health to wanting good governance without going out on voting days to elect good leaders. However, the professed advantage of spiritual options as to treatment could precede more patients on ART to interrupt treatment as argued by Roura *et al* [116].

Faith in God and in ART helped patients to cope with the situation they found themselves in and continue to live a normal life as possible. This is consistent with findings from a study in the UK where Anderson *et al* [240] acknowledged faith as one of the main coping strategies among the Caribbean PLHA resident at South London. Also, in the US, Trevino *et al* [241] confirmed that amongst African-American and Caucasian HIV/AIDS patients, positive religious coping was associated with positive outcomes. In another study, in South Africa, Gilbert and Walker [242] stated that patients pledged to adhere to ART since they see the ARVs as lifesaving. Furthermore, the patients were grateful to God, especially after recovery from the initial signs and symptoms of HIV as most patients were very ill prior to medical intervention and whilst being interviewed spoke about their fears of thinking they were going to die. This later perception is similar to findings from another study in the UK where Anderson *et al* [243] found that one of the things Caribbean PLHA in London associated the infection with was immediate death, ‘as the known self was going to die’.

Faith in God was also captured in some of the patients’ transcripts as a reflection of the two major religions in Nigeria. Some Christian patient interviewees declared that their faith was being tested with HIV infection and God could heal them if He so wished. This is consistent with a study carried out in Kinshasa, Democratic Republic of Congo where Maman *et al* [113] found that HIV-positive Christian women who were pregnant or had

recently given birth trusted that God has the power to cure their infection. Furthermore, Dalmida *et al* [244] found that amongst African-American Christian women with HIV/AIDS, there was a strong connection to God as some of them stated that HIV brought them closer to God.

While Muslim patient interviewees assumed that it was the will of God for them to become infected with HIV and one of them (Male, patient 18), further said that his infection could be a punishment from God for his vindictiveness. This is consistent with findings from a study in Tanzania where Zou *et al* [114] found that shame-related HIV stigma is strongly linked with religious beliefs such as the belief that HIV is a punishment from God or PLHA have not lived righteously. Similarly, Dilger [245] found that some of his interviewees acknowledged that HIV was a “punishment of God”. Also, in Cross River, Nigeria, Ucheaga and Hartwig [246] found that most religious group representatives described HIV/AIDS as ‘a punishment from God’ or ‘Allah’ (Islamic name of God). Whilst, Tocco [115] in another study, acknowledged that in Kano, Nigeria, passages from Islamic books were regularly cited by both HIV/AIDS patients and HCPs when talking about their belief that ‘Allah sends a cure to human beings for every disease’.

Many interviewees on receiving the diagnosis, had a bleak outlook on their own prognosis, but after medical counselling and starting courses of ARV drugs (where patients had seen improvements in their symptoms) were more optimistic about their future. Some patients still believed that they would obtain complete healing miraculously (through faith in God or Holy Grail) one day with, or without, the use of ARV drugs if they were happy and courageous. This is similar to a study in Tanzania where Roura *et al* [116] found that FLs believed that prayers could potentially cure HIV ‘completely’, but also encouraged ART usage because God had ‘only a part to play’. Some patients saw HIV infection as a challenge, in the sense that their faith may be, being tested. For

example, that the devil might be testing their faith, to see if people infected with HIV will continue to serve their Almighty God or run to other gods because of their afflictions. However, most patients believed that God could take away the challenge at any time if He so wished. For example, an interviewee (patient 13) said, he skipped doses of his ARV drugs for one week because a pastor said a healing prayer with him or worst still, some PLHA refused treatments since they believe that God can heal them of HIV one day.

5.1.2 Hospital Journey

The patients spoke openly about being delayed at the hospital on clinic days. Hence, some patients developed the habit of arriving at the hospital the night before their appointment in order to beat the queues in an attempt to speed their journey through the hospital. The delays made the patient journey more complicated and adversely affected patients' experiences. Long waiting times (and thus loss of income) has been reported by Hardon *et al* [104] as a main contributing barrier to optimal ART adherence in Uganda, Tanzania and Botswana.

Some patients interviewed also said it was stressful for them to get their CD4 cell count checked, because the unit limited the number of patients to 50 per day, even though the number of patients attending on clinic days far exceeded this number. As a result patients had, on occasion, to wait for weeks to have their CD4 cells count checked. This inevitably involves more patient return visits to the hospital, with the associated financial expense. This patient limit was confirmed by one of the laboratory scientists at the unit who stated that the machine at the lab could only process 50 specimens per day. This has obvious clinical consequences as doctors will continue to manage their patients without having real knowledge of the patients' current CD4 cell count.

Patients had varying experiences with regard to how staff treated them. Most patients said the staff provided good services, were caring and attended to the patients well, although some stated that some staff were ‘uncaring and unapproachable’ which is consistent with a study in Uganda by Duff *et al* [247] who established from HIV infected pregnant women that staff upset them by shouting at them and embarrassing them in the presence of other patients with questions such as ‘Did I give you AIDS?. However, the majority of patients at MDH said the staff provided good services, were caring, good, nice, encouraging and attended to the patients well, which is also consistent with findings by Wouters *et al* [248] in South Africa where the authors found high levels of patient satisfaction with ART-related services.

However, based on the facial expressions of some interviewees and coupled with some conflicting statements they made, more patients were critical of staff but would not say this because of social norms as poor service provision affected their daily lives. Furthermore, Olowookere *et al* [249] in a recent study carried out in Nigeria, stated that the majority of PLHA were satisfied with their medical care, however the authors suggested that more needs to be done to reduce patient waiting time preceding medical services.

5.1.3 Social Issues

5.1.3.1 Awareness of HIV

Some HIV patients interviewed were aware of the infection; awareness about HIV and its transmission was evident, ranging from some individuals being well informed to those with little information about HIV/AIDS. Those patients who were well aware of HIV claimed they got their knowledge through attending seminars on HIV/AIDS, listening to the radio, reading newspapers, watching televisions, browsing the internet, information from friends and/or relations. This is consistent with findings from a study carried out in

Nigeria where Oboh and Tsue [250] established that the major and regularly available sources of HIV/AIDS information to the rural farmers in Vandekiya local area of Benue state were radio, friends and neighbour. Also, Iliyasu *et al* [251] carried out a study in Kano State, Nigeria and established that more than half of the HIV patients had adequate knowledge of HIV/AIDS.

Ignorance of patients surrounding their condition also affected their care. For example some patients assumed that, with time, their CD4 cells count will become normal and therefore they would be free of HIV.

5.1.3.2 Poor Health

Obviously, the patients were in poor health (manifested various OIs) prior to their diagnosis of HIV at MDH, thus, they acknowledged that HIV/AIDS is both a sickness, and a challenge. This might also be related to the education they get from HCPs such as pharmacists who counselled them that HIV infection is not a death sentence, but they should accept it as other chronic illnesses. Furthermore, one patient (patient 19) said HIV patients are better off than diabetic patients who have restriction of what to eat and drink whilst another (patient 32) said HIV does not show on the patients' faces. This statement from patient 32, even though said in a lightly tone, poses a real danger to the society, and one difficult issue around HIV/AIDS to tackle as stated by the third pharmacist interviewed. So, HIV/AIDS patients can easily pass the virus to unsuspecting persons, as the virus cannot be detected by just looking at someone's face.

5.1.3.3 Stigma/Discrimination

Patients spoke of disclosure or lack of it; whether to family, friends, co-workers or people in general. Stigma, scandal, discrimination and societal pressure were all factors

that contributed to the person revealing (or not revealing) their HIV status - a finding seen in other studies [58,107,109,111,118,252]. Some patients did disclose their HIV status to friends and family members, whilst others did not, not even to their immediate partners. Those that had disclosed to immediate family spoke of gaining good moral and material (such as money) support from them. For example, the first patient interviewed affirmed that her sister had been responsible for her upkeep after her husband died from HIV/AIDS. Also, similar findings were reported in Uyo, Nigeria where most patients stated that their family members accepted, cared and supported them after disclosure [253].

There were some instances where disclosure had a negative effect. A case in point was seen with patient 19 who said that after she told her fiancé, the marriage was called off. Also, patient 29 said her boyfriend abandoned her after he was convinced that she was HIV positive.

Patients also did not want to be known to have HIV for fear of losing their job. For example, people in Abuja are aware that HIV clinics are held on Wednesdays. Habitual staff absenteeism from work (on Wednesdays) is therefore associated with HIV infection. In general, HIV patients dreaded being identified as having HIV by co-workers, employers, neighbours, friends and family members because of the social consequences. Such consequences in Nigerian society include social exclusion by neighbours (for example instructing their children never to play or even go near the children of the infected person) and being essentially unemployable. These observations are consistent with those found in other studies [254,255]. For example, the second patient interviewee said he lost his job because he was visiting the hospital frequently, which made his boss request for his medical report. He was sacked after his employer saw his medical report, which showed that he was HIV positive. This is despite the Nigerian government having laws protecting the rights of HIV patients from

losing their jobs [256]. The stark reality in Nigerian society is that the family will fail to have a regular income, which could lead them to borrow or beg to survive since there is no state benefit system in Nigeria. The spiral of decline will continue, which could result in children removed from schools, (since the family will not be able to meet school expenses), homelessness, and so on – an example of social drift theory [257].

Poverty worsens some patients' experiences of clinical services. Poor patients had trouble getting to the hospital on clinic days, due to lack of money for transport; exemplified by patient 16 who was given money by someone to transport himself to the hospital. Also, poorer patients worried about, and found it difficult to purchase medicines that were out of stock at the APU (medicine supply at APU was free), for example, the out of stock medicines mainly for OIs such as Septrin® or multivitamin.

5.1.4 Obstacles

Patients had to cope with three main obstacles at MDH whilst accessing care. These were: patient numbers; staff levels; and medicine shortages.

5.1.4.1 Patient Numbers

Typically, large numbers (>180) of patients attended MDH on clinic days. It is highly likely that these patient numbers contributed to the delays, which were experienced by both patients and staff. As the patients did not receive clinical service from the clinic on time, so, also the staff who attended to them did not leave the hospital on time especially pharmacists who were about the last HCPs that attended to patients before their exit from the hospital. Critically, the numbers of patients that attended the HIV clinic at MDH were sources of stress for the patients themselves and for the staff who attended to them; again consistent with findings from a similar study carried out by Hardon *et al* [104]. HIV clinical service is meant to be a personal (one on one) and

stepwise service at MDH but when faced with too many patients the probability is that the service will be compromised. So, the patients continued to bear the burden and, as is the case in Nigeria, some patients '*suffered in silence'*.

As a consequence of the large numbers of patients, both human and material resources were insufficient to serve every patient promptly and fully. Thus, ARV drugs were rationed, CD4 cells count could not be checked at the appropriate time, and staff did ask some patients to go home and come back another day, as confirmed by both patient and pharmacist interviewees (patient 15, 31 and pharmacist 6).

5.1.4.2 Staff levels

Staff levels were inadequate to serve the number of patients that attended the clinic, especially the pharmacy staff. At the MRU, which is the first point of contact for patients on clinic day, the situation was chaotic, mainly because of under staffing. However, the situation was made worse by the system employed in allocation of patient files/appointments and attending to those unannounced/unscheduled patients.

A maximum of four and minimum of two doctors were seen at the HIV clinic during this study period. However, a maximum of two pharmacists were at the APU. The under staffing at the APU was compounded by the fact that they not only had clinic day patients to attend to but returning patients to collect outstanding balances of ARV medicines from previous rationing. The perception (from both patient and staff interviewees) is staff at MDH were not enough to provide a clinical service for the large number of patients that attended.

5.1.4.3 Medicines

HIV patients experienced rationing of ARV drugs and unavailability of other medicines such as Septrin®, leading to incomplete dispensing of their prescriptions on clinic days.

Rationing of medicines seemed to be directly associated with the number of patients in attendance and the fact that their next appointment at the hospital was in 3 months' time; this created a classic supply and demand problem as patient 13 acknowledged in their interview. Instead of three months' supply, one month was dispensed, thus requiring patients to return to the pharmacy for more refills. The implication of this is that those patients who could not return at the appropriate times (no transport, no money, fear of losing their jobs, as discussed previously) for a refill of ARV drugs, may miss taking some doses, and this will have a negative clinical consequence, such as developing viral resistance; ultimately make the medicines less effective and bringing about a deterioration in their health. A similar problem was described by Pasquet *et al* [258] who suggested that out of stock related ART discontinuations had a negative impact on patients' retention and death. For those patients that could attend, additional time will have to be taken off work to visit the hospital putting greater financial strain on patients due to transport costs and loss of earnings.

5.1.4.4 Other Obstacles

Amongst other obstacles some patients identified at MDH whilst accessing care are briefly discussed below.

Some patients spoke about patients getting preferential treatment, on clinic days. A common norm in Nigeria is that those patients who are related to any HCP may never queue up to take his or her turn, since the relation will hasten his or her hospital journey. This obviously means that this 'queue jumping' compounded the waiting of those patients without a relation to speed their hospital journey.

Several patients spoke about the lack of a separate private space within the hospital for HIV/AIDS patients to avoid their being identified. The perception is that when the accommodation was being constructed, the authority might not have thought of the

number of patients that attended ARV clinic at MDH, thus, it is not the best accommodation for them.

Finally, one patient (patient 21) complained about the continuous daily use of ARV drugs as she said, ARV drugs are not food that is eaten every day. Also, another patient (patient 13) spoke out of context, identifying the corruption in the Nigerian government as being responsible for the unavailability of ARV drugs in hospitals.

5.1.5 Patient Expectations

HIV patients interviewed described their expectations about the sort of HIV services they expected to be provided by MDH. Broadly, these fell in to two areas, Medicines and Service Provision Improvement.

5.1.5.1 Medicines

The patients expected a regular and sufficient supply of ARV drugs and other medicines. From a clinical perspective, this would enable them to take complete doses of the prescribed ARV drugs at the right time, but from the patients viewpoint, it would allow them to visit the hospital less frequently; thus, they would need to take less time off away from their day-to-day activities and reduce the chance of other people suspecting them of being HIV positive. Also, some patients wished, for the purpose of convenience, that the dosing of their ARV medicines could be formulated in such a way so that they could take them less frequently, for example once daily, once weekly or even once monthly.

During the second phase of patient interviews, it became apparent that Septrin® was regularly out of stock, thus, the patients expected that it should be regularly available during their clinic days to avoid having to pay from their pockets to purchase it outside the APU.

5.1.5.2 Service Provision Improvement

Interviewees suggested a number of ways in which service provision for HIV/AIDS at MDH could be improved: more staff should be employed; staff, who will be caring towards patients and the authority should increase staff salaries to motivate them. The patients also wanted better facilities with greater privacy.

However, some staff informed the researcher that if the patients are provided with a different secluded area within the hospital, then, it will seem as if it is discrimination against the HIV/AIDS patients. Patients wanted some changes made for example; handling of patient MRs at the MRU and increasing patient numbers/day for CD4 checking in the Laboratory unit for ease of service. They also wished for more clinic days, such that clinic days will be increased from currently one (for experienced stable patients) to about four. Also, more HCPs volunteers should be encouraged to participate in providing clinical service for HIV/AIDS patients. Furthermore, Nigerian president (government) needs to make more contribution into HIV/AIDS service such as increase their funding towards ARV drugs.

5.2 Patient's Journey

Observations of the 'patient journey' through the hospital system on clinic days gave an insight into the management protocols applied by the hospital, and sought to identify areas where the patients experienced delays (Tables 4.6, 4.7 and Figures 4.1, 4.2). Ten patients were shadowed during their clinic days to understand better the identified concept theme of the patients' hospital journey derived through analysis of the patient interviews.

From the researcher's observation, delays were noted at each of the four major units. The time spent, on average, was longest at the APU and shortest at the vital signs

measurement unit. The short time spent at the vital signs unit was probably down to this being the first place patients went to after receiving their medical record – in other words waiting time delays could not occur, and secondly the procedures performed (blood pressure, weight, and body temperature) were simple and quick to perform. The vital signs measurement unit had two staff (both permanent and student nurses) on each clinic day, allowing them to 'process' two patients at once. Interaction between the patients and nurses was also observed to be minimal. The results of each patient's measurements were not always recorded in their medical folder; occasionally they were recorded on plain paper. In contrast, the medical records of patients were required by staff at APU before dispensing took place. Unfortunately for patients their medical record did not necessarily 'follow' them. After seeing the doctor, the patient went to the APU and took a seat and waited for their prescription. Standard practice by medical record staff was to collect patient records in batches from the doctors. This meant that a person seen first by the doctor would have to wait much longer than those seen immediately prior to the records being collected and given to the APU. This lead to long delays for many patients.

In addition, pharmacists endeavoured to spend time with each patient in educating and counselling them on their medicines, which led to more time being spent at the APU.

The fact is that patients spent little time receiving clinical services but a lot of time waiting to receive them. After the collection of folders by patients from medical record staff, they waited to be called forward for vital signs measurement, after the vital signs measurement, they waited for more time to consult doctors, and after the consultation with doctors, they waited for more time to see the pharmacist. For example, patient 4 spent 18 hours 56 minutes at MDH on one clinic day. However, only 2 minutes was spent at the vital signs measurement unit, 8 minutes was spent in consultation with the doctor and 86 minutes was spent at the APU; yet most of the APU time was in fact

spent waiting and not with the pharmacist. However, Okoli and Cleary [126] found that patients spent average of under four hours at a clinic located at Enugu State, South-Eastern Nigeria during their monthly appointments. Furthermore, Hardon *et al* [104] found in Botswana that PLHA spent between 4 and 12 hours to receive services at the clinics.

Some patients who were shadowed confirmed that they arrived at the hospital the previous evening preceding their appointment and slept in the hospital's waiting area in an attempt to avoid delays. Additionally, some patients attended MDH from bordering states like Nasarawa and Niger, and it could be assumed that because of the distance from Abuja that this also might tempt people to arrive at the hospital early.

Regardless of when the patient arrived at the hospital, the transit of the medical record appeared to be a constant source of delays. On occasion, the medical record could not be found at the MRU when the patient first registered. This led to the patient either being sent for vital signs without their records or a delay whilst it was found. The records seemed to be transported around the various clinics by MR staff and not by the patient. The greatest delay was seen whilst records were with the doctors yet the patient was waiting for their medication at the APU. Pharmacy staff would dispense medication in order that the MR staff deposited the record, although this may not have been the order they were seen by doctors. This led to 'queue jumping' and excessive delays for some. At the end of each patient's visit to the hospital, patient folders were left mainly at the last unit visited (usually APU) or taken back to the MRU by their staff. Thus, it was assumed that the MR staff would collect all the folders that were not returned to their office and file them appropriately. However, some folders were never returned to the MRU because the last unit where the patient left the folder had not finished extracting the record they wanted or the folder was taken to the MRU, but not filed appropriately. The system of patient records and patient movement seems to be at fault.

5.3 Nigerian Pharmacist Interviews

Again, after systematically reading and re-reading the Nigerian hospital pharmacists' interview transcripts, the pharmacists' interviews have been analysed and categorised into five concepts based on contributing themes (Table 4.8). Hence, discussion of the interviews will be based on the concepts and contributing themes that shaped pharmacists' day-to-day experiences of providing clinical service for HIV/AIDS patients. These were:

- Clinical service delivery;
- Pharmacists' impressions of HIV clinical service;
- Social issues;
- Obstacles; *and,*
- Pharmacist expectations on how to improve clinical service delivery.

5.3.1 Clinical Service Delivery

The pharmacists usually started with fact finding with the patient; they wanted to confirm if the patients knew and used their ARV medicines according to prescription instructions. Pharmacists wanted to know if the patient had experienced side effects or had any other complaints about any of their medicines so that they could provide counselling and/or advice for patients who needed them. These verification processes were similar to those applied in a South African hospital [77]. The pharmacists also wanted to know if the patients knew their close relations' HIV status which enabled them to educate patients on how to protect and prevent themselves and their loved ones from becoming re-infected or infected with HIV.

The pharmacists advised patients on confiding in close relatives to gain support, however, from the patients' interviews, most patients said that they did not disclose their

status to anyone. They dispensed, most times, only half the quantity of prescribed ARV drugs because of inadequate availability of ARV medicines. The pharmacists focused on educating patients on the importance of ARV adherence, especially on how to avoid viral resistance. Pharmacists established with the patient that the medicines would not work if they were not taken properly. They seemed to believe that patients were generally good at adhering to their medication regimens as evidenced by steady improvements in their CD4 counts and improved health status.

HIV outpatients at MDH were given and provided preferential (distinct from patients with other illnesses) clinical service face to face with pharmacists that was based on treatment guidelines formulated by the Nigerian FMoH [259]. This is consistent with a survey carried out in Abuja by Zungu *et al* [132] who confirmed that pharmacists were the most frequent HCPs who consulted the NATG at the hospitals. The pharmacists believed they provided a complete clinical pharmaceutical care service; identifying the right patient, establishing with the patient, the patients understanding of their medicines, vetted the prescriptions, liaised with the HIV doctors for those patients that needed further clinical attention. The pharmacists also filled the patients' prescriptions with the quantity of available ARV drugs, which were documented by the pharmacists. The pharmacists also educated the patients on HIV/AIDS and the drugs, with emphasis on ARV drugs dosing frequency to avoid ARV drug resistance.

5.3.2 Impression of Clinical Services provided

One Nigerian hospital pharmacist spoke confidently about their formal training that enabled them to attend to HIV/AIDS patients. They were also satisfied with the clinical service they provided to patients and described the service provided as a success, citing the reduction in the death rate from HIV/AIDS in Nigeria; an observation consistent with findings by Odafe *et al* [196] who acknowledged lower death rates in a

study. Most pharmacists interviewed believed that the majority of patients complied with their prescriptions. This perception is supported by a study conducted by Ware *et al* [106] in SSA, where ART adherence was found to be high among PLHA, as those infected wanted to prove to family members and those who cared for them that they were willing to stay alive. The pharmacists also said that they derived joy from doing a great job as they positively contributed to someone else's life, even though they believed they could provide more clinical services with more staff.

5.3.3 Social Issues

Most of the pharmacists asserted that there was increased public awareness about HIV/AIDS in Nigeria (and patients also mentioned this during their interviews). One pharmacist said that hospital staff (trained councillors) followed up on those patients that did not come for their appointments, although none of the patients interviewed made mention of the tracking system. This follow-up protocol demonstrates that the hospital wanted to ensure HIV/AIDS patients received regular treatment. The pharmacists also confirmed the involvement of NGOs in HIV/AIDS service in Nigeria [260] as the patients articulated in their interviews that NGOs and USAID have been supportive towards HIV service in areas of ARV drugs and some logistics supplies [169].

The pharmacists acknowledged that fear of stigmatisation inhibited patient disclosure to family members or the wider community knowing about their status. They observed patients leaving the APU and discarding packaging and inserts to hide the identity of the medicines they had received. They also spoke of patients being effectively ostracised from the family due to their positive status. Also, as the fifth pharmacist interviewed articulated, some patients come from Enugu to received treatment at MDH, a fact confirmed by the fifth patient interviewed, that he helped another patient to received

ARV drugs to enable him go back to Benue. A patient also said that each time he saw a nurse that he knows at MDH, he framed up a story for her or hid from her so that she would not know the reasons that brought him to the hospital. So, it was something of joy for some patients to receive treatments away from environments where people can recognise their faces which will lead to scandal and discrimination or stigma.

Although pharmacists spoke of an increase in the general public's awareness of HIV, they still thought that ignorance was one of the reasons why some patients did not receive medical treatment early enough citing patients that had visited herbalists or faith healers (who failed them) before they accessed the hospital for medical treatment.

5.3.4 Obstacles

The pharmacists did identify certain obstacles they came across whilst providing clinical services. Principally these were work environment and issues of how the running of the clinic days affect pharmacy and patient obstacles inhibiting delivery of pharmaceutical care.

5.3.4.1 Work Environment and Issues of how the Running of the Clinic Days Affect Pharmacy

The pharmacists said the APU had few staff to attend to the large number of patients, especially trained pharmacists, to provide a pharmaceutical service. This increased their workload, which proved challenging and ultimately made them spend less time with each patient, even though they wanted to spend more time with the patients to educate them on HIV/AIDS. Despite pharmacists spending less time with patients, they tended to work late to attend to all patients. Consequently, this was stressful for both patients and staff.

The pharmacists had to manage with a shortage of medicines, which they rationed for patients because the medicines in stock were not enough to be dispensed for every patient according to their prescriptions. Almost all patients complained about not been able to get their medicines completed at a single visit to APU and the pharmacists were not comfortable when patients brought prescriptions that they were not able to dispense completely. Patients were prescribed three months of ARV medicines but were dispensed, at most, two months.

The pharmacists said they had to manage within a non-conducive working environment. For example, having to put up with electricity outages, whereby air conditioners could not work, resulting in a hot working environment. The working space itself was cramped, with not enough shelf space for the medicines resulting in them placed on the floor.

5.3.4.2 Patient Obstacles Inhibiting Delivery of Clinical Services

One pharmacist also had issue with the Pidgin English spoken by many patients because she was brought up and schooled outside Nigeria. Some of the pharmacists observed that some patients did not know their ARV drugs mainly because they concealed the ARV drugs immediately after they had been dispensed. Similarly, patients were in a hurry to take their leave from the hospital such that most of them, as the second pharmacist interviewee said, did not wish to be saddled with counselling on HIV/AIDS. Rather, they wanted to get their medicines and leave the hospital. Probably, this is because they had already been at the hospital too long and wanted to return to work as quickly as possible, as many will not have gained permission from their working place to attend the clinic.

Some patients also received and answered telephone calls while being attended to at MDH (the researcher witnessed the patients' telephone exchanges) which could have

affected and made such patients to have divided attention towards pharmacists' counselling.

5.3.5 Pharmacist Expectations on how to improve Clinical Service Delivery

Pharmacists thought that more staff needed to be employed across the service, especially pharmacists. More pharmacists would allow the APU to remain permanently open with permanent staff members. Besides extra staff, they wanted adequate working tools, such as computers and software for data entry since they record all dispensed prescriptions as well as making necessary notes in their files. They wished to have enough medicines to enable them to complete the dispensing of prescriptions, so avoiding the potential of patients to not go without taking their medicines. Of course the complete supply of medicines would minimise refill prescriptions and help decrease their workload. They wished electricity outages to be minimised, even though this was a nationwide issue. Pharmacists had mixed views on the number of clinic days; some wanted them to increase, whilst others were content for them to remain the same; the latter point being based on the staff being unable to cope with the workload.

They also wished the authority would improve staff incentives such as pay extra salary for staff that work to provide HIV service because they still carried out other schedules within the hospital when they were not attending to HIV patients.

5.4 NHS Pharmacist Interviews

Four NHS HIV pharmacists were interviewed to find out how they managed HIV outpatients. Subsequently, after systematically reading and re-reading the NHS HIV pharmacists' interview transcripts, the pharmacists' interviews have been analysed and categorised into five concepts based on contributing themes (Table 4.9) identified.

Thus, discussion of the interviews will be based on the concepts and contributing themes that shaped the pharmacists' day-to-day experiences of providing clinical service for HIV/AIDS patients. These were:

- Clinical service delivery;
- Pharmacists' impressions of HIV clinical service;
- Social issues;
- Obstacles; *and,*
- Pharmacist Expectations on how to improve Clinical Service Delivery.

5.4.1 Clinical service delivery

All four pharmacists interviewed said the management of HIV outpatients usually started with categorising their patients based on their CD4 cell count. Grouping of patients was to enable the pharmacists to identify those patients that needed a specialist service, and when to start them on ARV drugs. The pharmacists provided a one-on-one clinical service to each HIV patient, this included: counselling and education of patients on everything they needed to know about HIV/AIDS and their ARV drugs; vetting their prescriptions prior to dispensing and in some cases, arrangement of home delivery of ARV drugs. Also, the pharmacists worked together with other HCPs at the same location to provide seamless clinical services for HIV patients which is similar to a description in an article by Hill [261].

The pharmacists said that they followed treatment guidelines for HIV/AIDS (e.g. the British HIV Association, BHIVA) for clinical service delivery. The pharmacists also said that they provided all the vital information needed to help the patients live positively with HIV/AIDS. The pharmacists also sought for patient feedback on the clinical service provided to enable the hospitals to improve on the service provided.

5.4.2 Impression of Clinical Services Provided

The pharmacists said that they provided good clinical services and that they were personally committed to the job. They saw patients individually but worked as a team to provide an integrated clinical service. There was good availability of ARV drugs, and every patient was dispensed their medications in full. Furthermore, clinics were offered frequently, with six (including Saturday at SOH) clinic days per week, which included evening clinics at some hospitals like BHH and SOH.

5.4.3 Social Issues

The pharmacists said that some of the patients were refugees who lived in shared houses and thus confidentiality was important to them with regard their HIV status. Thus, such patients made careful decisions about home delivery of ARV drugs to avoid flat mates or neighbours from noticing contents of the delivery. They also said that some patients had issues with stigma, which affected their decision to disclose their status to others. Furthermore, the NHS pharmacists said that some patients believed that HIV is curable. Also, the NHS pharmacists said that some patients refused to accept that they tested positive to HIV/AIDS after the doctor's diagnosis and so, turned down treatment for HIV.

5.4.4 Obstacles

The NHS HIV pharmacists did talk about some obstacles they came across whilst they provided clinical services. One of them spoke about paper work involved which they processed and were needed for good record keeping. They also talked about those patients who presented to hospitals at late stage of HIV infection, which made treatment difficult, and how such patients needed consultants' services. They talked about

patients who did not return to the hospital for their treatment, prompting the staff to track them. They spoke about pressure on their time to fulfil all their obligations, which included activities other than caring for HIV patients. Furthermore, they spoke about high patient expectation towards HIV clinical services, such that the patients wanted to be given more privileges, for example coming to the HIV clinic at unscheduled times. Language was a barrier, since some patients were not native English speakers. The NHS pharmacists spoke about patients' being in the hurry to leave hospitals on their appointment days such that some patients made mentioned of their parking tickets running out. Such patients were likely to be amongst those patients who did not disclose their HIV status to anybody, so wanted to meet up with other appointments such as office duties as usual. After commending the NHS for providing a good service for HIV/AIDS patients, one NHS pharmacist did talk about PCT (Primary Care Trusts) funding cuts to some HIV services, which may affect the way the staff are able to provide clinical service for HIV patients in the future.

5.4.5 Pharmacist Expectations on how to improve Clinical Service Delivery

The pharmacists did not have much to talk about regarding service improvements as all generally felt that NHS was providing a good service for HIV patients. In fact, one of the four NHS pharmacists had no suggestions for improvement since he was satisfied with the service provided. The other three talked about support groups for people living with HIV, who would, from time to time attend forums with HIV patients and speak openly about HIV to reduce the stigma attached to HIV/AIDS. They wanted more HIV pharmacists to be employed. Suggestions were raised on giving pharmacists (and HIV nurses) prescribing rights, which they felt would reduce congestion in the clinic, or able to provide treatment to patients when doctors were not readily available. They felt that

more evening clinics would be helpful since they found evening clinics useful for working patients or patients who, due to stigma, do not like day time clinic hours. They wished that they could manage stable HIV patients via the telephone so that appointments could be freed up and used by other patients; this would also help to reduce patient visits to the hospital. Also, they wished to see the home delivery service expanded.

5.5 The Hospital Administrator Interviews

The administrators (represented by two medical records staff and a senior medical doctor) interviewed acknowledged that HIV patients experienced delays at MDH and that the patient:staff ratio was high and thus, staff were overworked. Acknowledgement of patient delays has been identified by all groups; patients, pharmacists and the administrators. The administrators gave further clarity about the clinic day set-up and running. Patients were given block (same appointment times for all patients) appointments, which required every patient to report at the hospital for 08:00 on a clinic day. Thus, the block appointment system was a major reason why delays were observed at the MRU, as they struggled to cope with the large number of patients on clinic days with a limited staff resource.

Administrators also stated that some patients did not turn up for their appointments without notifying the hospital, whilst others came to the clinic on days that they were not given appointments. This led to a chaotic administrative system which manifested in further patient delays. Administrators suggested that the authority needed to: employ more staff, notably, pharmacists and doctors; reduce clinic day patients' numbers; improve the staff work environment; and have electronic recording of patients' data.

5.6 Key Issues that Emerged

The key issues that emerged from data collected will be discussed based on similarities and differences between NHS HIV, and Nigerian pharmacists' interviews, and overall ideas from the study results.

5.6.1 Main Similarities and Differences that Emerged from NHS HIV and Nigerian Pharmacist Interviews

Some similarities and differences emerged from interviews of the NHS and Nigerian pharmacists.

5.6.1.1 Clinical Service Delivery

Fundamentally, they both tried to provide the same type of service that was modelled on pharmaceutical care but routine feedback from patients on the service is gained by NHS pharmacists whereas in Nigeria, this is an aspiration.

5.6.1.2 Pharmacist Impressions of Service Provision

Both felt that they were providing a good service to their patients and the impression from both sets of pharmacists is that they cared about what they did and derived satisfaction from seeing their patients get better.

The way in which they interacted with other HCPs did vary, in that NHS pharmacists were 'closer to the doctors' and had a more integrated approach to overall healthcare of the patient rather than a separate temporary ('silo') approach in Nigeria. Pharmacists in the UK enjoyed greater resource to provide services such as medicines and greater number of clinic days.

5.6.1.3 Social Issues Associated with Service Provision

Stigmatisation surrounding the diagnosis of HIV was something expressed in both the UK and Nigeria and one which impacted on service delivery. In Nigeria, this was more acute and made worse by repeat visits to the hospital to access services leading to greater opportunity for others to guess the patients reasons for visiting the hospital. Although, disclosure of status was something that UK HIV patients feared, the social impact with regard to financial security was of less importance given the UK state benefit system as opposed to Nigeria where knowledge of HIV status could lead to job loss and financial insecurity.

The level of discrimination in Nigeria also appears to have a greater impact on HIV patients. It is not untypical for social exclusion from family, friends and the wider community – something rarely obvious in the UK.

5.6.1.4 Obstacles encountered while providing Service

Patients' failing to attend scheduled appointments was seen in both Nigeria and the UK– in both settings mechanisms were in place to try and 'track' these patients. The issue of 'not enough time' was again common to both settings; however, the context of this time was different. In Nigeria, it was the overwhelming numbers which made basic delivery of pharmaceutical care difficult whereas in the UK, it was more to do with not being able to provide additional services above and beyond what was expected and managing a high patient expectation. The expectation in Nigeria from the patient was low – being seen and getting enough free medicine appeared to be key.

5.6.1.5 Expectations for Improvement of Service Provision

Service improvements were very different between the two groups. Nigerian pharmacists requirements were basic – more staff, better facilities and reliable power

supply. NHS pharmacists in contrast were looking to provide further services to patients and create a higher profile role for themselves, e.g. prescribing.

5.6.2 Overall Ideas that Emerged from the Study Results

This section completes the description of this study and the results as important issues that emerged from the study have been presented. The preceding chapters have talked about experiences of patients living with HIV/AIDS, pharmacists and administrators experiences of attending to HIV/AIDS outpatients at MDH, and how NHS HIV pharmacists managed HIV outpatients. Participants in the study have described living with HIV/AIDS as challenging because what it brings about include stigma, discrimination, loss of source of income and/or positively, increased their faith in God.

5.6.2.1 Faith

Faith was very important to the majority of the patients interviewed as they explicitly expressed that faith in God and ART helped them to cope with the diagnosis and also, most of them were optimistic and hoped that one day, God will cure them completely from HIV infection. Some patients also advised that they (patients) needed to pray to God for staff to double their efforts in finding a cure for the infection. Though, the pharmacists and management staff did not express their opinions about faith as regards provision of clinical services for patients. However, the Nigerian pharmacists were aware that the patients have strong views about their individual religion which could influence how they utilised the ART. The pharmacists were aware that patients moved from one church to another, had visited spiritual healers and other places in search of spiritual healing without success prior to coming to MDH.

5.6.2.2 Patient Delays

In this study, almost every HIV patient interviewed bemoaned the recurrent delays experienced when they went to receive clinical services and yet, their ratings of service at MDH were satisfactory. These delays were confirmed by interviewed pharmacists and administrators which they both attributed mainly to large numbers of patients and inadequate staff. These delays were also observed by the researcher when shadowing patients on the 'journey' through the hospital.

Delays were greatest at the APU. Patients were attended to by few pharmacists, patient medical records appeared in batches creating delays for many and prompt service for the very few. This coupled with repeat visits by patients requiring re-supply of half-filled prescriptions all contributed to delay. From the researchers' perspective, it was distressing to observe two pharmacists attempting to provide clinical services for over 180 patients at the APU in one day. This high intensity of workload does place pressure on pharmacist staff and increases the risks of mistakes happening; mistakes were observed by the medical record staff when records were checked. Patients, pharmacists and administrators all stated that the APU was understaffed, and thus, all felt that more staff needed to be employed to ease delay and congestion.

5.6.2.3 Employ More Staff

The researcher observed a maximum (minimum of two) of four doctors, two pharmacists and other HCPs (nurses, MR staff, Laboratory scientists) attended to over 180 HIV patients on a clinic days. The patient:staff ratio and subsequent HCP workload was something that all interviewees commented on, and unsurprisingly recommended that more staff should be employed. At every unit of MDH that provided HIV services, there was shortage of staff, which was most acute at the APU and acknowledged by the hospital administrator. This is consistent with a recent study from Mozambique by

Lambdin *et al* [262] which revealed that high pharmacy workload led to patients' loss to follow-up. However, Africa as a continent has a severe shortage of pharmacists so there is no quick fix in employing more staff 'just like that'.

5.6.2.4 Stigma and Discrimination

Stigma remains a major issue associated with a diagnosis of HIV/AIDS. As the then UN Secretary-General, Ban Ki-Moon stated in 2008 at the 17th International AIDS Conference in Mexico City:

'Stigma remains the single most important barrier to public action. It is the main reason too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of speaking about it, or taking easily available precautions. Stigma is a chief reason the AIDS epidemic continues to devastate societies around the world.' [263].

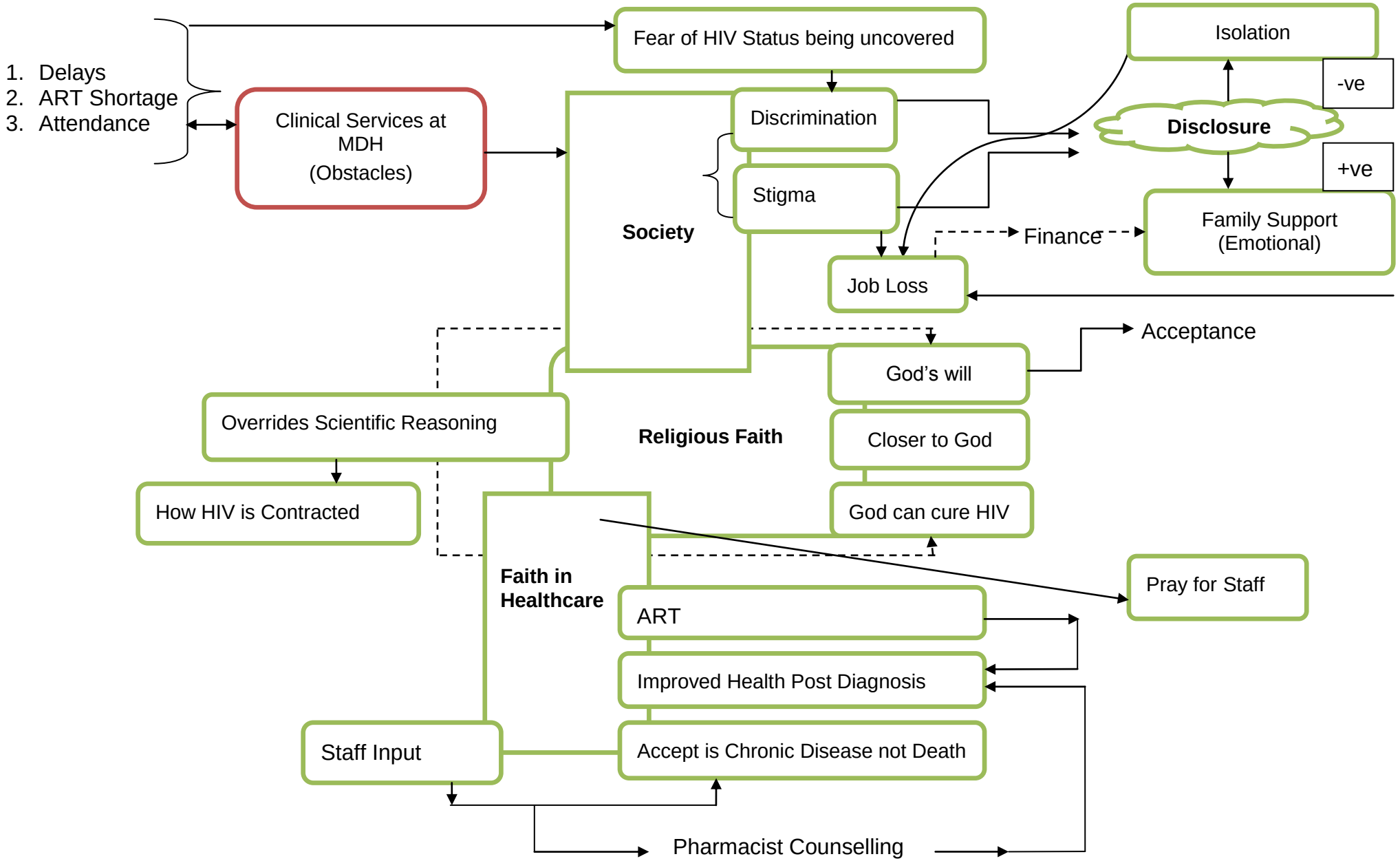
This sentiment holds true in this study. In Nigeria where social norms and cultural practice dictate behaviour, then, stigma associated with HIV/AIDs does lead to discrimination that can effectively see lives ruined.

Raising public awareness and demystifying widely held beliefs is one way in which stigma can be tackled and authors such as Babalola *et al* [264] suggested that media-based HIV programmes should be intensified in Nigeria to battle HIV/AIDS related stigma. This stigma and discrimination however is not just a public issue in Nigeria, as highlighted by Reis *et al* [265], discrimination also needs to be tackled with healthcare workers themselves.

5.6.2.5 Increase Clinic Days

The numbers of patients attending the clinic day at MDH are too great and all parties concerned thought that additional clinic days would be a potential solution to better managing the number of patients and allow staff to ‘cope’ and provide better services. The overall view of this study findings with emphasise on pharmacist contribution into HIV/AIDS management at MDH is summarised in the diagram below (Figure 5.1).

Figure 5.1: Schematic View of this Study Findings Connecting Faith and Pharmacists Counselling Roles at MDH


1. Delays
2. ART Shortage
3. Attendance
Clinical Services at MDH
(Obstacles)
Fear of HIV Status being uncovered
Discrimination
Stigma
Society
Isolation
-ve
Disclosure
+ve
Family Support
(Emotional)
Finance
Job Loss
Acceptance
God's will
Closer to God
God can cure HIV
Religious Faith
Overrides Scientific Reasoning
How HIV is Contracted
Faith in Healthcare
Pray for Staff
ART
Improved Health Post Diagnosis
Accept is Chronic Disease not Death
Staff Input
Pharmacist Counselling

6. CHAPTER SIX - RECOMMENDATIONS AND CONCLUSION

6.0 Introduction

This study has identified a number of concepts that are pertinent to the management of HIV/AIDS patients at MDH, and to the promotion of a 'fit for purpose' pharmacy service to support these patients. The study has identified twenty-three recommendations as elucidated below and are further synthesised into six potential areas for implementation and changes to the working practices within the hospital that would result in improvements to the service provision at MDH.

6.1 Recommendations for Pharmacists to Effect Changes

The Nigerian interviewees, particularly patients have spoken about the obstacles to service provision and of their expectations for the HIV service provision at MDH. However, whilst all expectations cannot be addressed immediately, a number stood out as requiring immediate attention, and possible ways by which pharmacy and pharmacists can intervene to resolve them are explored below.

6.1.1 Faith

Faith came out powerfully in the majority of patient interviews, as they expressed their beliefs and the effects that these beliefs had on their approach to their HIV therapy. Pharmacists were aware of the patients' beliefs in God as they have alluded to patients seeking for help from pastors, churches and other places like traditional healers prior to their coming into the hospital. However, whilst pharmacists cannot,

and should not seek to alter these spiritual beliefs, an awareness of such patient-held beliefs may well serve to increase the effectiveness of patient counselling sessions.

6.1.1.1 Recommendation One

The pharmacists should consider customising patient education and counselling on ART, so that counselling recognises individual patient's religious beliefs to encourage the patients to connect their religious beliefs to their ART appropriately.

6.1.1.2 Recommendation Two

The pharmacists should advise the hospital authorities to contact the two main religious worship places in Abuja; being the National Christian Centre and Nigerian National Mosque, to seek the support of their leaders on educating their worshippers, about the importance of adherence to ART while still trusting God or Allah.

6.1.1.3 How to accomplish recommendations one and two

A one day seminar by religious leaders and pharmacists should be organised to explore the views of the various religious groups to ensure that pharmacist counsellors are aware of the various views of both Islam and Christianity about clinical therapy. An emphasis on the exact phrases that pharmacists could use during their counselling sessions would enable them to counsel patients appropriately on the usage of ART. Furthermore, Church leaders and Imams should be encouraged to include positive views concerning ART in their preaching.

6.1.2 Delays

Delays in the patient journey as an obstacle to service provision emerged as a dominant theme across the three groups of interviewees in Nigeria. Such delays led to patient dissatisfaction and often a failure to provide an effective service.

6.1.2.1 Recommendation Three

The number of clinic days for HIV/AIDS patients should be increased from one to two. This would serve a number of advantages, firstly a reduction in the number of patients attending on a given day from 180 to 90 would relieve the strain on overworked resources and second, the movement away from the concept of the Wednesday clinic being the HIV clinic would reduce some of the social problems for the patient, such as stigma.

6.1.2.2 Recommendation Four

The pharmacists should be on permanent positions at the APU without carrying out other duties such as call duties at any other pharmacy units within or outside the hospital. This would allow for a more dedicated and contiguous service provision.

6.1.2.3 Recommendation Five

Patients attending the APU for repeat prescriptions should be timed to visit the pharmacy before the normal clinic times. Thus, pharmacy staff should be required to report to the APU from 08:00 each clinic day, so that they can attend to patients on repeat prescriptions. These would include patients whose ARV medicines were incompletely dispensed at previous visits to the APU.

6.1.2.4 Recommendation Six

The responsibility for the refilling of repeat prescription on non-clinic days should be transferred to the main pharmacy unit, thus enabling repeat patients to collect their prescriptions on non-clinic days and so further reduce the workload on the APU on clinic days.

6.1.2.5 Recommendation Seven

The availability of HIV/AIDS clinics should be extended to weekend clinics as provided in the NHS in the UK, thus enabling patients who are in full time employment to attend clinics without requiring work leave. This would further reduce the fear of exposure in these patients as they would not have to request leave from their employers. Such clinics may well require shorter hours (10:00-16:00) to serve smaller number of patients attending.

6.1.2.6 Recommendation Eight

Hospital management should be advised to make changes to the working practices at the MRU; particularly, changes to the method of having to wait for ten or more patients to finish consulting with doctors before their MRs are taken to other units, especially to APU for service provision. There is no need for the first patient on the queue to wait for more other patients' MRs to be filled by doctors before his or her MRs are taken to APU in bulk. If each patients MR could be transferred immediately with the patient, unnecessary delays would be avoided and the flow of work through the APU would be streamlined.

6.1.2.7 Recommendation Nine

Hospital management should consider the introduction of an electronic MR system allowing for the fast transfer of patient data between hospital units. Such a system would further reduce delays, reduce waiting times at the APU and greatly improve not only the actual service provision for the patients, but also improve their perceptions of the service and the hospital.

6.1.2.8 Recommendation Ten

The pharmacists should advise the management on the number of patients that can feasibly be attended to at the APU on clinic days, so that the patient numbers can be streamlined to between 50 and 100 on a clinic day. A reduction in the number of patients attending on a given clinic day would have the effect of reducing the patient:staff ratio towards those values reported by NHS pharmacists as being desirable for the provision of a good service.

6.1.2.9 Recommendation Eleven

Pharmacists working in the APU should reduce the number of paper-based recordings carried out for each patient both during the patient visit and after they have left the APU. This would reduce the administrative workload on the pharmacists and greatly increase their availability for patient counselling concerning ART.

6.1.2.10 How to accomplish recommendations three through eleven

Implementation of the recommendations three to eleven will require a complete rethink on the delivery strategy for the provision of HIV/AIDS services to patients attending MDH. Thus, although they may be pharmacy-led, they will require input from hospital management and other clinical units providing input to the patient

journey through the hospital. It is unlikely that these wide-ranging recommendations could be implemented at a stroke, but a revisit on the management strategies for the handling of patient medication records and the timing and frequency of clinic days would enable the provision of a much-improved service. The implementation of an electronic patient record system may well have wider implications across the hospital but, if only implemented in the HIV/AIDS clinics would greatly improve the patient experience.

To be successful, these changes will require complete dedication from all staff involved in the clinic especially pharmacists, to put in more time, and MRU staff will need to address the pharmacy-led suggestions for service improvement. As for the electronic MR system, its implementation may not be immediate but let the management be aware of the importance for the patients for future considerations.

6.1.3 Stigma

The stigma or shame associated with HIV and/or ART is conspicuously evident amongst all patients as they themselves spoke about it and pharmacists were also aware of patients stigmatising themselves.

6.1.3.1 Recommendation Twelve

Pharmacists should increase their efforts to both encourage and to educate patients during their counselling sessions, especially on the disadvantages of self-stigmatisation and on how to manage their disease with ART. Such encouragement and increased understanding of the clinical status of HIV/AIDS and its management with ART would lead to improvements in patient adherence and more positive clinical outcomes.

6.1.3.2 Recommendation Thirteen

The number of HIV/AIDS clinics held at MDH should be increased. There is considerable speculation amongst patients that many people in Abuja are aware of HIV clinics at MDH being held on Wednesdays. Patients perceive this association as greatly increasing the chances of employers and family members concluding their HIV status from the fact that they attend hospital on Wednesday. Thus, the timetabling of clinic days at MDH throughout the week would greatly reduce the patients' perceptions of this association being made by employers and family, and so reduce their perceived risk of being identified as HIV/AIDS patients.

6.1.3.3 Recommendation Fourteen

There should be an increased awareness campaign on the stigma associated with HIV/AIDS throughout the catchment area of the hospital. Pharmacists should raise this issue with hospital management through their monthly reports and so, enable the management to emphasise the benefits of prevention of HIV stigma.

6.1.3.4 How to accomplish recommendations twelve through fourteen

The increase in the number of clinic days and their rescheduling to occur possibly daily throughout the week and at weekends will require a major undertaking by both management and by pharmacy staff. Changes in the working practices of both groups must be addressed to provide a wider-availability of patient service, the overall benefits of which will be a more patient-focussed service with lower levels of stigmatisation for patients and their families. In addition, the pharmacists will need to draft appropriate messages or slogans that may be used by management in an

attempt to change in the patients' experiences as regards HIV stigma for the campaign.

6.1.4 Staff:Patient Ratio

Shortage of staff and the ratio between numbers of staff and numbers of patients emerged as one of the dominant themes across the three groups of interviewees at MDH and as one of the most important issues identified in this study. Whilst the majority of interviewees thought that employing more staff would solve the problem, this is unlikely to be an available option. Therefore, explorations on the working practices of staff at MDH may serve to redress the balance.

6.1.4.1 Recommendation Fifteen

The physical dispensing of prescriptions at the APU should be delegated to suitably-trained technical staff, with only the final check being carried out by a qualified pharmacist. Such a development would allow greater flexibility on pharmacist workloads, improved patient counselling times and the delivery of the final prescription as part of the counselling process. This latter implementation may serve to promote patient adherence as counselling by the pharmacists may be directed at each medication as it is presented to the patient.

6.1.4.2 Recommendation Sixteen

With pharmacists and technicians on duty, clinic days should be increased from two clinic days in a week to at least four. To learn from the NHS, HIV clinics have enough clinic days for HIV patients, thus; HIV patients attending NHS clinics had more options of when to attend clinics, thereby, reducing the number of patients on a clinic day.

6.1.4.3 Recommendation Seventeen

The pharmacists could solicit for more volunteering pharmacists on behalf of MDH from academic and private sectors to help them out on clinic days.

6.1.4.4 How to accomplish recommendations fifteen through seventeen

The change in working practice outlined above requires the transfer of a suitably qualified technician into the APU. Such an individual may well come from existing staff in the main pharmacy. One Pharmacy technician from the main pharmacy unit can be moved to the APU with authorisation from the HOD of pharmacy. Depending on the skill set of the individual moving to the APU, dispensing training may need to be given to ensure an adequate level of expertise for prescription dispensing.

It is acknowledged that the APU relies on a number of volunteer staff, both pharmacists and non-pharmacists, and the recruitment of a suitably-qualified technician from outside the MDH staff pool may be an option. Pharmacists should contact other pharmaceutical establishments for more volunteers.

6.1.5 Accommodation

The APU is under spaced; three temporary rooms, with one or two desk top computers, four tables and chairs, dispensary accessories and ART drugs on the tables, shelves and floor. It was evident that when MDH was planned or built, there was no plan for the inclusion of APU. However, relatively small changes to the accommodation provided to the APU by the hospital authorities may well serve to improve service provision to patients.

6.1.5.1 Recommendation Eighteen

Hospital management should look to the provision of an improved APU facility. Whilst a larger, purpose-built provision would be the aim, changes to the structural provision of the existing facility would still improve the situation. Pharmacists should make suggestions to the authorities for a bigger and more permanent APU provision with increased temperature-controlled shelving for storage of ART drugs; improved counselling facilities; private cubicles with sufficient tables and chairs to provide greater levels of patient confidentiality and more computers with internet access.

6.1.5.2 Recommendation Nineteen

Management should provide a small generator system to cover regular power outages at the APU. This would ensure continuity of appropriate storage conditions for ART drugs and so greatly improve the supply chain. A further advantage of such an installation would be the maintenance of a comfortable environment for both patients and pharmacy staff.

6.1.5.3 How to accomplish recommendations eighteen and nineteen

Whilst it is acknowledged that these two recommendations may not be immediate feasibilities, due to issues around funding, their highlighting in this report serves to identify the priority that pharmacy would place on these provisions to enable the development of an improved service to patients. Their possible implantation should be the subject of an appropriate cost-benefit analysis

6.1.6 Shortage of ART

Shortage of ART emerged as a dominant theme across the three groups of interviewees at MDH and thus, one of the most important issues identified in this

study. Also, hospital pharmacists' principal roles revolve around medicines, which make it very difficult for them to work efficiently without the availability of suitable medicines. Again, it is acknowledged that these ART drugs are expensive, and that monies for their provision are limited, there do exist mechanisms by which drug supplies may be obtained from other sources. Thus, many drugs are supplied by local pharmacies in response to requests from the hospital.

6.1.6.1 Recommendation Twenty

Pharmacists should develop a more focussed strategy to solicit for ART and other medicines from community pharmacies; possibly by involving their colleagues during general monthly meetings for pharmacists in Abuja and through formal letters from MDH.

6.1.6.2 Recommendation Twenty-one

The pharmacists can also approach and solicit for donations of ART and other medicines for the patients through distinguished and well to do individuals and organisations around or outside Maitama district such as pharmaceutical companies in Nigeria, for example, Emzor Pharmaceuticals.

6.1.6.3 Recommendation Twenty-two

The hospital should ensure that the APU receives information as to patient numbers attending clinic days well in advance of the event. It is important for the pharmacists to be informed about an approximate number of patients attending next clinic day from the MRU so that they can make adequate preparation as regards quantity of ART in stock to reduce patients' repeat visits to the clinic.

6.1.6.4 Recommendation Twenty-three

The pharmacists can put more pressure on the authorities to re-enforce their efforts in advising the MFCTA on the needs to increase the budget for health by adding more funding specifically into provision of ART to avoid further catastrophes from HIV infection in Abuja.

6.1.6.5 How to accomplish recommendations twenty through twenty-three

When pharmacists attend their meetings, they should be able to make constant and consistent appeals to other pharmacists for ART donations. The pharmacists should be able to find out the number of patients scheduled for next clinic day from the MRU. Also, there should be constant reminder of the management at the end of every month as they make their end-of-month reports on service provision about more funding for ART.

This study has investigated the current provision of HIV/AIDS services to patients attending clinics at the MDH in Abuja, Nigeria. Twenty three recommendations have been made that would, if implemented in total, dramatically improve the pharmacy-based provision of services to this group of patients. It should be noted that many of these recommendations do not require massive financial input, but are based on appreciation of the patients' perspectives of their disease management and proposed changes to the working practices of the MDH in provision of pharmacy services to its patients.

6.2 Proposed Implementations

The six major potential areas for implementation and changes to the working practices within MDH are:

1. The influence of ‘faith’;
2. Restructuring of the staffing provision in the APU;
3. Employment of technical helps in the APU;
4. Increased number of clinic days;
5. Changes to working practices covering patient records; *and*
6. Increased efforts to secure more availability of ARTs.

6.2.1 Faith

Faith needs to be recognised, accepted and used as a “tool” in the counselling of patients on ART adherence in APU. Thus, the pharmacists should consider customising patient education and counselling on ART, so that counselling recognises an individual patient’s religious beliefs to encourage the patients to connect their religious beliefs to their ART appropriately. Also, the pharmacists should advise the hospital authorities to contact the two main religious worship places in Abuja; being the National Christian Centre and Nigerian National Mosque, to seek the support of their leaders on educating their worshippers, about the importance of adherence to ART while still trusting God or Allah.

6.2.2 Pharmacist Staff Restructuring

This study has shown that a continuity of pharmacist provision at the APU would result in an improved level of service to patients. Therefore, a pharmacist should be placed on permanent position at the APU without carrying out other duties such as call duties at any other pharmacy units within or outside the hospital. This would allow for a more dedicated and contiguous service provision. However, this may well necessitate a review of overall pharmacist provision in the hospital.

6.2.3 Technician Restructuring

The physical dispensing of prescriptions at the APU should be delegated to suitably-trained technical staff, with only the final check being carried out by a qualified pharmacist. Such a development would allow greater flexibility on pharmacist workloads, improved patient counselling times and the delivery of the final prescription as part of the counselling process. This latter implementation may serve to promote patient adherence as counselling by the pharmacists may be directed at each medication as it is presented to the patient.

6.2.4 Increased Clinic Days

One of the major barriers to service provision identified in this study is the large numbers of returning patients attending on the Wednesday clinic day. In addition, the identification of the Wednesday clinic as the ‘HIV/AIDS clinic’ raises problems of stigma and other social implications for the patients.

With pharmacists and technicians on duty, clinic days should be increased to two clinic days per week for returning patients. This would not only reduce the workload on pharmacists and technicians on an individual clinic day, but also serve to lessen any sociological problems associated with the single clinic day.

To learn from the NHS, HIV clinics have enough clinic days for HIV patients, thus; HIV patients attending NHS clinics had more options of when to attend clinics, thereby, reducing the number of patients on a clinic day.

6.2.5 Changes to Working Practices

This study has shown that current working practices, particularly with reference to patient records, results in intermittent delivery of patient records to the pharmacy and subsequent long delays for patients waiting for their medication.

Hospital management should be advised to make changes to the working practices at the MRU; particularly, changes to the method of having to wait for ten or more patients to finish consulting with doctors before their MRs are taken to other units, especially to APU for service provision. There is no need for the first patient on the queue to wait for more other patients' MRs to be filled by doctors before his or her MRs are taken to APU in bulk. If each patients MR could be transferred immediately with the patient, unnecessary delays would be avoided and the flow of work through the APU would be streamlined.

6.2.6 Pharmacy should Solicit for more ART

The availability of ART at the hospital is limited, often resulting in patients having to return several times in order to receive their full prescription. The presence of a dedicated pharmacist at the APU would, in collaboration with the Chief Pharmacist, enable the development of a more focussed strategy to solicit for ART and other medicines from community pharmacies; possibly by involving their colleagues during general monthly meetings for pharmacists in Abuja and through formal letters from MDH.

The pharmacists can also approach and solicit for donations of ART and other medicines for the patients through distinguished and well to do individuals and organisations around or outside Maitama district.

6.3 Theoretical and Practical Contribution of Thesis

This thesis contributes valuable knowledge to our understanding of the role(s) of pharmacy in the management of HIV patients, especially in the Nigerian setting. It provides new knowledge about the experiences of HIV patients and their impact on the provision of clinical services. The thesis also makes several important contributions to theory which includes:

Firstly, the thesis identifies that faith has a central role in patient experiences of living with HIV, second; it proposes that religious faith is utilised as a tool and incorporated into pharmacy counselling to connect patients to their ART. Third, it recognises how delays at the hospital on clinic days affect patient experiences. Fourth, it identifies that social stigma and discrimination have strong influences on patients and their interactions with HIV services, with the populace linking every Wednesday to HIV clinic day at MDH and restricts home delivery of ART in the UK. Finally, pharmacists in Nigeria and the UK views of clinical services for HIV patients have been explored in this thesis.

6.4 Conclusion

This thesis has detailed HIV patient, pharmacist and management staff views on the management of HIV patients at MDH, and elucidated the patient journey on clinic days. In addition, pharmacy management of HIV patients at UK NHS hospitals was explored. Although this study has been exploratory in nature, it has contributed substantial new knowledge into an under researched area such as contribution of pharmacy in the management of HIV and opened the door for further exciting research in this domain. Whilst most of findings obtained in this study are consistent with the literature, certain factors such as; shortage of staff, ART shortage, delays,

inadequate accommodation, few clinic days and stigma that impinge on the quality of clinical services provided for patients in Nigeria have been identified. Consequently, suggestions on how pharmacy can contribute to improve the service provision for HIV patients at MDH have been made and implementations of these suggestions could improve the patients' experiences at MDH.

6.5 Recommendations for Future Work

The focus of recommendations for future work is on two areas of significance identified from this study and these are:

1. Adherence; *and*
2. Surveys in other prototype hospitals in Abuja and Nigeria.

6.5.1 Adherence

The Nigerian pharmacists interviewed had said that every patient testified to the fact that ARV drugs were properly taken according to their prescriptions. However, the pharmacists did not trust that the patients took their ART according to prescriptions, though, most pharmacists, generally, agreed that there was a good level of ARV drugs compliance by the patients. Furthermore, some patients stated that they had some tablets (ARV medicines) remaining, so did not come to the clinic as scheduled or had exhausted all their medications prior to their hospital visits. Therefore, it would be appropriate in future to find out how HIV patients at MDH view the importance of ARV drugs adherence and to what degree adherence is maintained in order to help the patients avoid viral resistance to ARV drugs. This could be done through structured interviews using purposive sampling and responses from the interviews will be used for formulating questionnaires with closed ended questions for a quantitative study.

6.5.2 Surveys in other Prototype hospitals in Abuja and Nigeria

The findings of this study at MDH identify a number of areas of concern and have identified possible implementations to improve service provision. However, it is important to identify whether, or not, these observations are peculiar to MDH, or typical of service provision at other hospital sites throughout Abuja, in the first instance, and Nigeria as a whole. Thus, further studies should be carried out at other, similar hospitals in Abuja and Nigeria to elucidate the overalls scale of the problems in order to further identify strategies for improvements in the service to HIV/AIDS patients in Nigeria.

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Appendices

Please note that appendices are on the accompanying CD ROM, and only interview prime questions are attached to the appendices below.

Appendix 1 Research Ethics Committee Approval from MDH

Appendix 2 Notification Letter to MDH of the Researcher's Arrival for the First Phase of Data Collection

Appendix 3 Approval from Federal Capital Territory Health Research Ethics Committee

Appendix 4 Participant Letters

Appendix 4.1 Letter of Invitation for Participants

Appendix 4.2 Participant Information Sheet for Patients

Appendix 4.3 General Consent Form for Participants

Appendix 4.4 Questions for Phase 1 Patient Interviews

Prime questions

1. Can you tell me what is it like living with HIV?
2. What are the worries that come to mind when you think of medical treatment for HIV?
3. Can you tell me your views on receiving clinical services for HIV infection?
4. What improvements do you think could be made to the way you receive your clinical services?

Appendix 4.4.1 First Phase Patient Interview Transcripts

Appendix 4.4.1.1 Patient 1 Interview Transcript

Appendix 4.4.1.2 Patient 2 Interview Transcript

Appendix 4.4.3 Questions for Nigerian Hospital Pharmacist Interviews

Prime questions

1. Can you tell me your views on providing clinical services for HIV infected adults in your hospital?
2. Can you describe to me how you manage a typical patient in your HIV clinic?
3. What are the difficulties with providing clinical services for HIV infected adult patients?
4. What improvements do you think could be made to the way you deliver your clinical service?

Appendix 4.4.4 Nigerian pharmacists Interview Transcripts

Appendix 4.4.4.1 Pharmacist 1 interview Transcript

Appendix 4.4.4.2 Pharmacist 2 Interview Transcript

Appendix 4.4.4.3 Pharmacist 3 Interview Transcript

Appendix 4.4.4.4 Pharmacist 4 Interview Transcript

Appendix 4.4.4.5 Pharmacist 5 Interview Transcript

Appendix 4.4.4.6 Pharmacist 6 Interview Transcript

Appendix 4.4.4.7 Pharmacist 7 Interview Transcript

Appendix 4.4.4.8 Pharmacist 8 Interview Transcript

Appendix 4.4.4.9 Pharmacist 9 Interview Transcript

Appendix 4.4.4.10 Pharmacist 10 Interview Transcript

Appendix 5 Second Phase of Data Collection

Appendix 5.1 Notification Letter to MDH of the researcher's Arrival for Second Phase of Data Collection

Appendix 5.2 Questions for Phase 2 Patient Interviews

Prime questions

1. Can you tell me what is it like living with HIV? U fit tell me how ebe and how u feel as u don know say you are HIV positive?
2. Can you tell me any worries or fears you have concerning HIV treatment in this hospital? u fit tell me any wahala u get 4 the HIV medicine wey them don give you in this hospital
3. Can you tell me your views on receiving clinical services for HIV infection? U fit tell me your mind for the HIV treatment you don get?
4. What improvements do you think could be made to the way you receive your clinical services? Wetin u think wey fit improve the treatment you dey get?

Appendix 5.3.1.2 Patient 2 Shadowed

Appendix 5.3.1.3 Patient 3 Shadowed

Appendix 5.3.1.4 Patient 4 Shadowed

Appendix 5.3.1.5 Patient 5 Shadowed

Appendix 5.3.1.6 Patient 6 Shadowed

Appendix 5.3.1.7 Patient 7 Shadowed

Appendix 5.3.1.8 Patient 8 Shadowed

Appendix 5.3.1.9 Patient 9 Shadowed

Appendix 5.3.1.10 Patient 10 Shadowed

Appendix 5.4 Participant Information Sheet for Hospital Administrators

Appendix 5.5 Questions for Administrator Interviews

Prime Questions

1. What are your views on HIV patient journey in this hospital?
2. Are the patients aware of their journey in this hospital?
3. Are there feedbacks about patients' journey in this hospital?
4. Who made those feedbacks?
5. When were there made?
6. What are your constraints in this area of patients' journey?
7. What improvements do you think could be made to the patients' journey?

Appendix 5.5.1 Administrator Interview Transcripts

Appendix 5.5.1.1 Medical Record Staff Interview Transcript

Appendix 5.5.1.2 Senior Medical Officer (doctor) Interview Transcript

Appendix 5.6.1 NHS HIV Pharmacist Interview Transcripts

Appendix 5.6.1.1 NHS Pharmacist 1-DP-at WNH Interview Transcript

Appendix 5.6.1.2 NHS Pharmacist 2-SS-at SOH Interview Transcript

Appendix 5.6.1.3 NHS Pharmacist 3-GH-at BHH Interview Transcript

Appendix 5.6.1.4 NHS Pharmacist 4-RB-at WMH Interview Transcript